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U.S. Federal Trade Commission

928.

FOOD INVESTIGATION^{C#}

REPORT
OF
THE FEDERAL TRADE COMMISSION
ON THE
WHOLESALE MARKETING
OF FOOD

June 30, 1919



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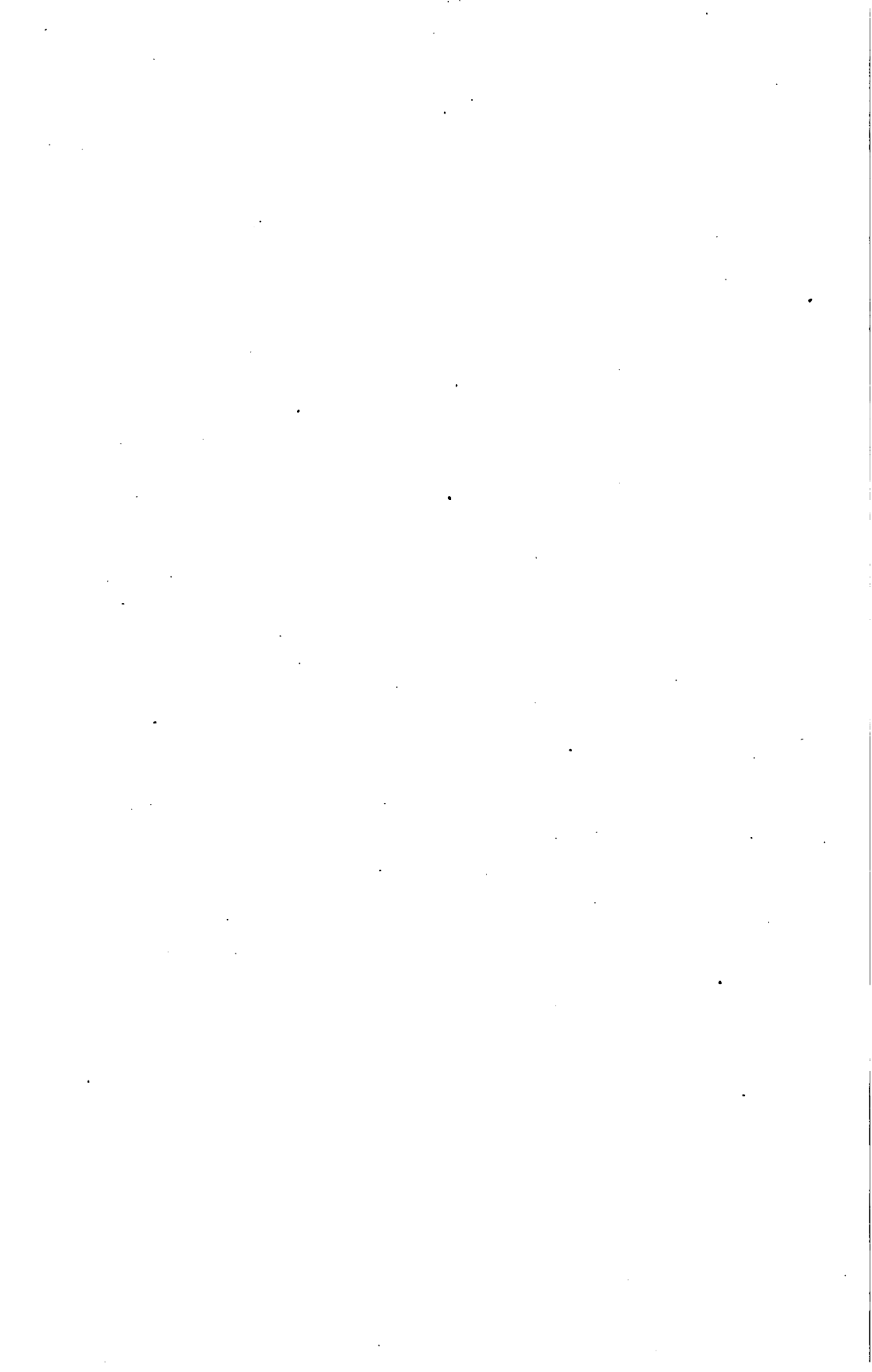
J. P. YODER, *Secretary.*

OCT 15 1937

A. M. Z.

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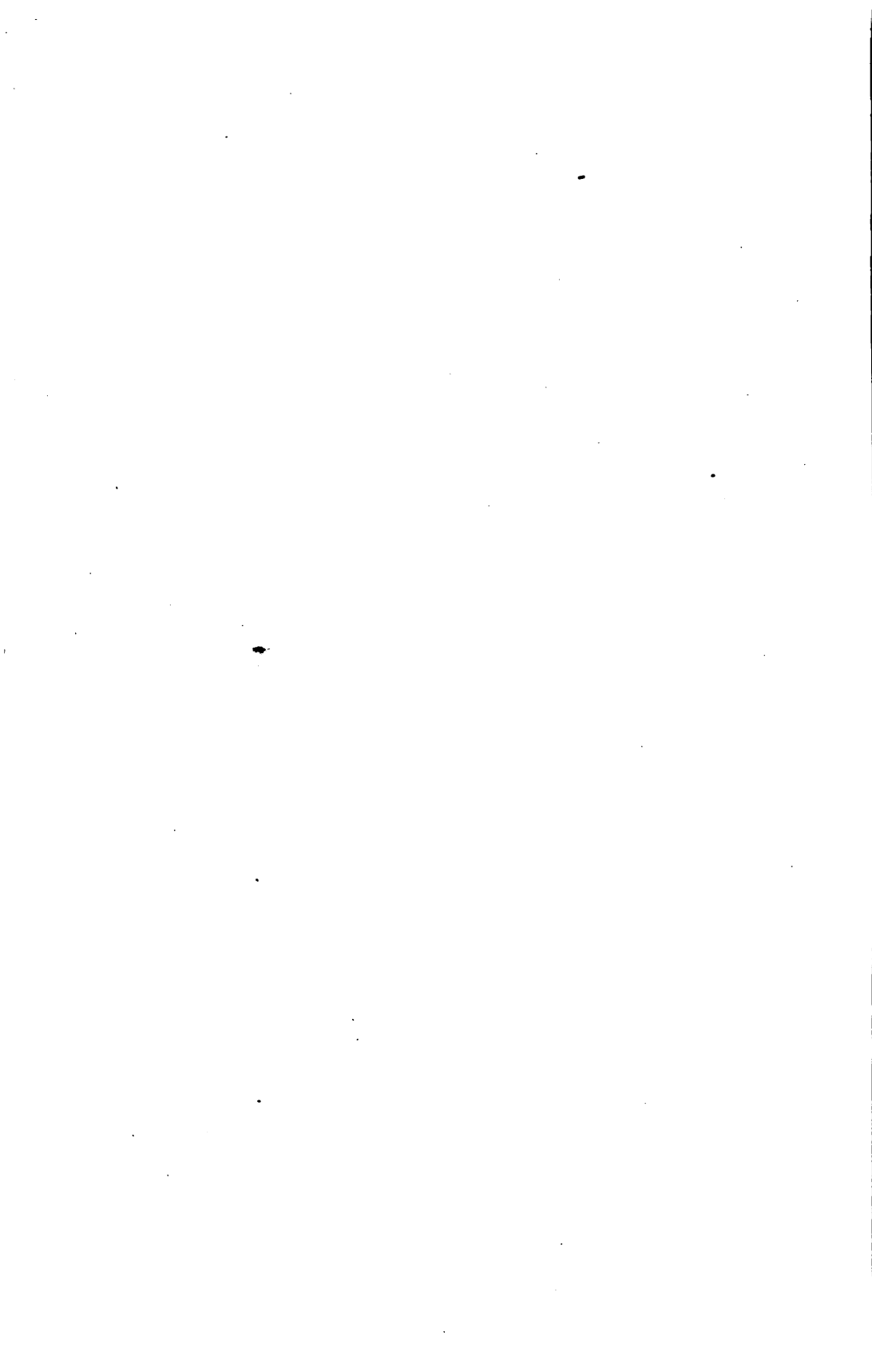
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LETTER OF TRANSMITTAL.

FEDERAL TRADE COMMISSION,
OFFICE OF THE CHAIRMAN,
Washington, June 30, 1919.

SIR: I have the honor to submit herewith the Report of the Federal Trade Commission on the Wholesale Marketing of Food.

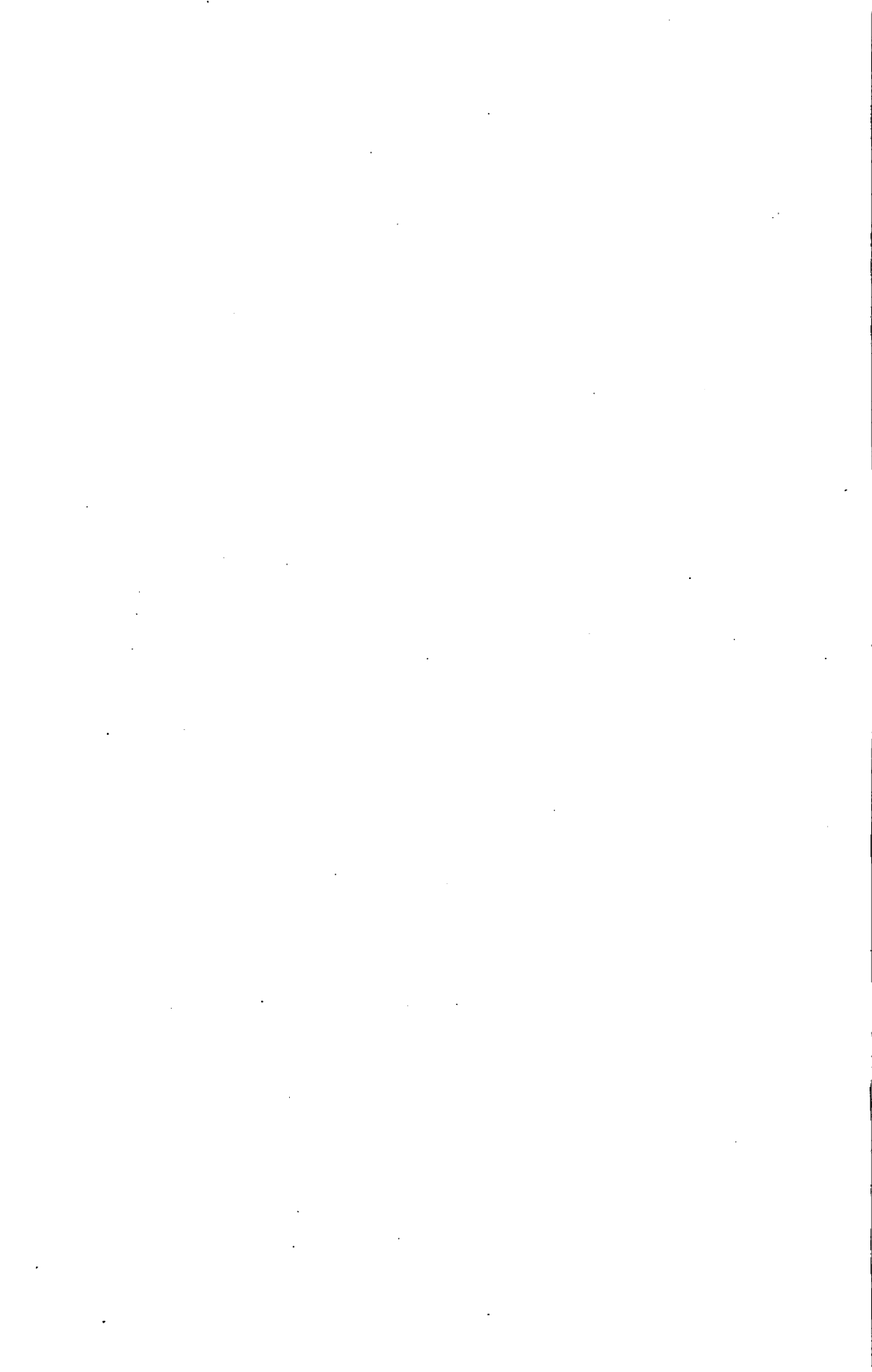
This report presents a part of the information secured in the course of the general food investigation, which was begun in accordance with the instructions given in your letter of February 7, 1917.

By direction of the Commission.

Yours very truly,

WILLIAM B. COLVER,
Chairman.

THE PRESIDENT, *White House.*



REPORT OF THE FEDERAL TRADE COMMISSION ON THE WHOLESALE MARKETING OF FOOD.

CHAPTER I.

URGENCY OF THE FOOD PROBLEM AND ITS PROPOSED SOLUTION.

Section 1.—Food prices and incomes.

Food prices have risen in recent years with incredible swiftness. The weighted average of wholesale food prices in the United States was in December, 1918, 107 per cent higher than the weighted average for the year 1913.¹ It is, however, not so much the rise in prices of foods that matters as it is that the money incomes of large numbers have fallen far short of a proportional increase. While retail food prices for the year 1918 were on the average 68 per cent higher than similar prices for 1913, weekly wages of union-organized labor averaged but 30 per cent higher than in 1913.² A week's wage in 1913 bought but 77 per cent as much food as in 1913. But this comparison is for the wages of union labor. The larger number of service incomes do not fall within this organized group and are much slower to respond to the pressure of a higher cost of living. Moreover, these incomes are for the same reason usually less in amount. It follows that for very large numbers of people receiving relatively small incomes, a week's wage in 1918 was purchasing much less than 77 per cent of the food it bought in 1913.

Section 2.—Effect of food prices on trade.

Prices of food, however, concern the community not alone as consumers of food but also as producers of commodities and therefore as participants in the trade of those commodities. Food absorbs 38.2³ of the average American household's income. It therefore constitutes no inconsiderable part of the wage and salary cost in all pro-

¹ U. S. Department of Labor, Bureau of Labor Statistics, Monthly Labor Review, March, 1919, p. 115.

² Ibid., pp. 119, 120, 166, 167. Included in the union-organized labor on which the above percentage is based are the principal occupations in the building, granite and stone, and metal trades, in freight handling, in the bakery, mill-work and printing trades, and the occupations of chauffeurs, teamsters, drivers, laundry workers, theatrical employees, and waiters. It should be pointed out that many trades are not included in this list, and that the percentage for any individual trade, whether in the list or not, may depart considerably from this average percentage.

³ Figures furnished by U. S. Department of Labor, Bureau of Labor Statistics.

duction. Of two communities whose products enter the same markets otherwise equally, that one which supplies its working people with food at a lower community cost either will pay its workers a higher real wage or will have a marked advantage in underselling the other through lower production costs. Both results may in some measure follow.

It is common knowledge that there has been a marked rise in the food prices of all countries during the last five years. This rise has been somewhat less in the United States than in some other countries, for example, in England,¹ though such a comparison does not go to the more fundamental idea of relative changes in community or national costs of food, and unless governmental restrictions on prices and price-making conditions in the two countries are exactly similar the comparison is not wholly a fair one. If, for example, one of these two countries has a governmental regulation that the other does not have, which fixes the producer's price of a food below competitive costs and profits and provides for the making up of this deficiency to the producer by the payment of a subsidy, the sales price of this food represents something less than its national cost and basis for a fair comparison is not found in the sales prices of the two countries. Governmental restrictions during the war exigency have as between various countries differed considerably in character and degree.

On the other hand a wise governmental policy toward the food industries may lower production and distribution costs together with the final sales price without proportionally increasing governmental costs, thus reducing the national cost of food. It is the urgent need and proposed content of such a policy toward wholesaling to which this report seeks to direct public attention.

Section 3.—Analysis of food prices—Distribution as a factor.

It may be generally stated under present usage that there are five fairly well defined stages through which food materials and foods in industry pass. Each of these stages fulfills a useful purpose, and for the social service involved in each of the first four, just and reasonable compensation should be paid in the interest of stable and ever-flowing commerce. They are broadly:

Production—the bringing into being of the raw material.

Manufacture—the preparation by manufacture, refinement, preserving, or other process of conversion.

Wholesaling—the gathering together in large quantities of stores of products of varied sorts and from widely separated sources. The collections of such commodities by large shipments work for a

¹ International Price Comparisons by War Industries Board, Bulletin No. 2, p. 19. This comparison is based upon 34 food commodities and shows the wholesale prices to be for December, 1918, as compared to those for the year July, 1913–June, 1914, in England 131 per cent greater; in United States 108 per cent greater.

lowered transportation toll and constant reservoirs of supplies at natural distributing centers.

Retailing—the carrying in smaller amounts the varied sorts of goods at convenient points in smaller communities for the immediate satisfaction of the needs of the consumer, and for his convenience.

Consuming—the end of the process and the purpose of it all.

In common usage the first and second of these stages are included in the term production, and the third and fourth in the term distribution.

The consumer of food has a vital interest in every factor which affects its price without at the same time affecting his money income in like direction and degree. This follows since the operation of such factors in such manner results in an increase or decrease of the total satisfactions which the consumer may secure from his income. Likewise the community as a producer, in competition with other communities, is interested in these factors as having possible favorable or unfavorable effect on relative production costs. These factors, many and varied, are measured in terms of money costs. The price of bread, for example, may be affected by conditions of labor in the baking trade, by the relative abundance of flour and other materials, by the relative ease of delivery of the finished product, or by the conditions of competition between bakers. In the absence of direct governmental price-fixing, the costs of labor, materials, and delivery to the baker, and of competition to the consumer in the form of baker's profits measure the relative importance of these factors, and together with the costs of other factors go to make up the consumer's price.

It will be observed that some of these costs have to do with the production of the commodity, others with its distribution. The consumer, however, as consumer, knows no distinction between production and distribution. Purely as a price consideration, it is a matter of indifference to him whether price is three-fourths production costs and one-fourth distribution, or vice versa. Indeed, for him production is not completed till the commodity is laid down at his door, and for him the price at which the commodity is delivered is cost—consumer's cost.

It is, therefore, quite as important from the consumer's standpoint that costs of technical production be lowered as that costs of so-called distribution be reduced. But, while there still remains much to be accomplished in the former direction, greater success has here been attained than in the latter. Quantity production which has been enormously increased, and severely scientific methods which have prevailed in many fields of production, particularly of manufacturing, have been, among others, factors in lowering unit costs, though

producers' profits have in some instances contributed unduly to consumers' prices.

The costs of distribution, on the other hand, are for many food commodities notably high. The term distribution is here used in its commonly accepted sense as applying to the movement of a commodity, finished as to manufacture or growth, from the manufacturer or grower to the consumer. It involves primarily a change of ownership and secondarily whatever change in location as is necessary to serve the uses of the consumer. The costs of distribution, as the latter term is thus defined, form no inconsiderable part of the final price which the consumer has to pay for the foods which he purchases, and these costs, together with attending wastes of foods, as demonstrated in succeeding chapters with reference to wholesaling, are unnecessarily high. While, of course, it is not contended that these unnecessary costs and wastes in wholesaling are alone accountable for rising prices, it is held that their elimination would in no small measure act as a counteragent in checking disparity between food prices and money incomes and would strengthen the nation's position in its competition for world trade.

Section 4.—Uneconomical wholesaling of foods.

Improved marketing facilities and processes are everywhere, in village as well as city, urgently needed. Dealers generally recognize this need. Producers are a unit in pressing for such improvement. Consumers, through organization and press, have demanded that the system of food distribution be simplified and the movement of food be made most direct from field and factory to table, allowing only for such delay in manufacturing and storing as is necessary to the most economical disposition of products.

Evidence presented in this report which would seem to place the responsibility for the existence of any marketing condition on any one individual or group of individuals or agency is not necessarily conclusive in that respect and is not cited generally for that purpose. Rather is it the object, primarily, in presenting this evidence to establish the thesis that marketing conditions are fundamentally bad. It is deemed not of so much importance to assess the relative merits of complaints where charges and counter charges have been made or to determine the incidence or degree of individual blame as to present complaints which appear to be typical and which by their number and serious import point to conditions requiring fundamental correction.

MARKETING FACILITIES.—It is shown in this report that careless handling, improperly equipped cars, delays in moving, and exposure while foods are in railway transit to market are the causes of large and unnecessary losses and expenses to dealers and shippers; that.

railway terminals are usually scattered, that they are not properly equipped with cold, heated, and dry storage to prevent deterioration before perishables can be removed, and that often they lack facilities for the quick and safe handling of foods.

It is also shown in this report that buildings and other facilities for the marketing of perishables in the vast majority of wholesale receiving centers are entirely inadequate, are generally badly located with reference to terminals, storage, and retailers, are often congested, and are invariably ill-adapted in construction and arrangement to economical marketing. In several cities running above 100,000 in population, public storage facilities were found to be entirely lacking and in others inadequate. Where storage is sufficient it is often far from both terminals and wholesale centers.

As a consequence of the location of markets with reference to terminals, storage, and retailers, a large amount of carting is necessary. Congested and poorly paved streets, long distances, ill-equipped conveyances all make for useless expense and large losses of foods through deterioration.

If the wholesaling of foods is to be placed on an efficient basis, the first and most obvious requirement is that respecting physical equipment. Facilities adequate to every need should be provided for the receiving, handling, storing, preserving, buying, selling, and delivering of specified foods. This requirement will not be met under the present organization of the marketing system. The benefits arising from the economical physical handling of its food supply are dependent upon such public action as will secure the facilities required.

MARKETING PROCESSES.—The work of the United States Food Administration during the period of the war was directed through education and regulation to secure in the main these five ends: Adequate production, equitable and adequate distribution, limitation on the cost and profits of distribution from producer to consumer, co-ordination of Government purchases and sales of foodstuffs, and food conservation. The two ends touching distribution directly concern marketing. Many regulations of the marketing processes were effected through the administration's licensing power granted under the Lever Act of Congress. Most of these were clearly beneficial to the producer and consumer as well as to the honest dealer serving a necessary function and should be made permanent with proper provision for their enforcement.

Substantially all manufacturers and wholesale distributors of food, and all retail distributors doing an annual business of \$100,000 or more were licensed. The licensee was made subject to the general license regulations and also to those drawn to cover the practices

peculiar to his particular trade. These regulations for dealers in both perishable and nonperishable foods were directed to the elimination of hoarding, speculation, profiteering, and unnecessary functions increasing distributing costs. In staples a margin over cost was fixed. In fresh fruits and vegetables this is less practicable, and the regulations sought to eliminate deceptive, wasteful, and unfair practices, to require commission firms to render prompt and accurate accounting, to confine such firms to reasonable commissions, and to require the prompt unloading and disposing of goods.

For dealers in poultry, eggs, butter, and cheese held in cold storage, margins sufficiently low to discourage speculation were fixed and resales were limited. The operations of butter and egg exchanges were strictly regulated to exclude speculative trading and manipulation of the market. The Elgin Butter Board was closed. Speculation on commodities held in cold storage was discouraged by limiting a public warehouseman's loan thereon to a fixed percentage of their value and by prohibiting his dealing in such commodities. He was required to file a schedule of storage charges and to make no changes except on 30 days' notice. Where charges were found to be excessive, maximum rates were prescribed for him by the Food Administration. Cold-storage products were required to be labeled as such to prevent their sale as fresh products at higher prices.¹

These and other similar regulations of the handling of both perishables and nonperishables, frequently referred to in succeeding pages of this report, were instantly effective in checking wastes of foods and unnecessary distributing expense. With the war over, most of these regulations have been lifted, and in the absence of further legislation all will be gone following the ratification of the peace treaty. A proven instrument for curbing the profiteer in food, the unnecessary trader, the speculator, and the wasteful handler should not be abandoned. If effective regulation of the marketing processes is retained, it must be through some established governmental agency.

Section 5.—Proposed public wholesale market.

The final chapter of this report outlines in detail the Commission's recommendation made in the Summary of its Report on the Meat-Packing Industry² that central wholesale markets and storage plants shall be established by the Federal Government.

PUBLIC AS APPLIED TO MARKET DEFINED.—The term "public" is used to include these two conditions:

First, that the physical facilities required to be used in the wholesale marketing of specified foods shall be owned by the Government

¹ See Annual Report of the United States Food Administration for 1918.

² Summary and Part I, pp. 76-78.

and furnished to individuals for use under private operation; second, that all wholesale market operations whereby use is made of these publicly furnished facilities shall be under Government regulation.

The inclusion of the first condition is based on the proposal to realize the following aims:

(1) To limit the total capacity of facilities to the maximum requirements, that may be placed on such facilities, thus reducing to the minimum wastes arising from nonuse.

(2) To provide facilities of such operating efficiency as will function at a minimum of cost per unit of product handled.

(3) To insure against lack of facilities and consequent insufficiency of services.

(4) To insure against private monopoly of facilities and consequent monopoly charge for their use.

(5) To secure the best use of facilities by providing competitively under the incentive of private operation and private profit the best tenants.

(6) To require the full cooperation of all the forces concerned in the use of facilities thus publicly furnished.

The inclusion of the second condition, that these publicly furnished facilities shall be under Government regulation, rests upon the following three corollaries of the foregoing proposals:

(1) The corollary of a proposal to provide public facilities is a system of regulation which conditions their use to the public's advantage.

(2) The corollary of a proposal to regulate the total capacity of such publicly furnished facilities is provision for regulating the profits arising from the privilege of their use.

(3) The corollary of a proposal to permit or require by the public the cooperation of the forces concerned in the use of such facilities is the public regulation of such cooperation.

FEDERAL CONTROL OF MARKETS TO BE PREFERRED OVER STATE OR LOCAL.—If it is conceded that wholesale food markets should in the interests of public economy be made public, there remains the two-fold question of what branch of the Government should have jurisdiction and how that government should function.

Federal jurisdiction, rather than State or local, is urged on these grounds:

(1) The movement of food pays little heed to State or city lines. Indeed, the source of food supply of any given community is largely, in many lines of food wholly, beyond the boundaries of that community's own State. Interstate commerce is, therefore, involved in this movement, over which the Federal Government only is in control. Moreover, the marketing transactions themselves affect parties widely separated. On the buying side wholesale marketing begins

in many cases with purchase at point of shipment, and in all cases it is concerned with the methods of grading, packing, inspection, and shipping, all of which are matters of interest to wholesaler and consumer. A local or State government, however, has no authority over a shipper beyond the confines of the State and can not directly control his activities in the protection of local merchant and consumer.

(2) The local wholesale merchant and the consumer are, however, not the only parties primarily concerned in a wholesale food market. The producer of foodstuffs is dependent on such markets for an outlet to his products. It is a matter of as much interest to him as to the consumer in knowing how to meet the latter's wants, for upon this knowledge his own livelihood depends. Grading, packing, and shipping are all matters about which he is directly concerned, both as factors of cost and as means of meeting the demands of the trade. He is interested equally with the buyer in the wholesale market in inspection and terms of settlement. He is as desirous of a broad and stable market as is the consumer of his products. Only the Federal Government can conserve his proper interests in distant and widely separated markets.

(3) Neither producer nor consumer is well served by the present hit-or-miss system of marketing. Only through a thoroughgoing coordination of wholesale markets and producers supplying such markets can maximum economies in distribution be effected, eliminating the relative glut, wastes of food, and shippers' losses in some markets and on the same day the relative undersupply and overcharge to consumers in other markets. The coordination of such widely separated marketing forces can not be accomplished by the State or local governments.

(4) Dealers in many markets and others interested in improving market conditions and service admit the desirability of the public market but contend that its establishment under local government is impracticable, if not impossible, because of conflicting local interests and petty jealousies. Such conditions were found by the Commission to obtain in many localities. Federal establishment and control would remove this difficulty.

(5) Control by packer interests over the channel of distribution in many food lines is rapidly growing. Monopoly of the channel in some of these lines is imminent if not actually present. Undue economic advantages of these interests tend further to choke the way. A system of wholesale markets under close public supervision will open up and shorten this channel from producer to consumer and will keep it unobstructed. If the channel is interstate, as it is for the transportation of much of the food, it is the business of the Federal Government to eliminate monopoly and unfair practices. If the method of making the market public is chosen to accomplish this,

the Federal Government can not force the State or local government to adopt this method. If the market is universally and uniformly made public, the Federal Government alone is in position to accomplish this result.

THE RAILROAD ADMINISTRATION AS THE CONTROLLING AGENCY.—The Commission in the summary of the report on the meat-packing industry¹ recommended that the Federal Government establish these markets through the United States Railroad Administration. Should the railroads of the country continue to be operated by the Federal Government there would be certain advantages in placing public wholesale markets under the Railroad Administration. Use would thereby be made of a Federal agency already fully organized and needing only expansion for this additional service. Considerable saving in overhead expense would result.

Economies of handling foods require the closest coordination between railroad terminal facilities, including trackage, yards, switching engines, sheds, depots, etc., which are properly a part of the railroad equipment and under the Railroad Administration, and facilities for storing these foods until deliveries are made to the retail trade.

Dependence of the market on the transportation system for safe and quick handling is obvious. Perishable foods should usually have priority in movement and care over all other freight traffic. A centering of responsibility in one controlling agency for the condition of food from the time it leaves its shipping point until its arrival in the hands of the retailer would have immense advantages. Moreover, the extent to which one market should benefit over another because of greater nearness to food sources should be determined by the governmental agency responsible for the supplies of food and general conditions in both markets.

Section 6.—Indirect benefits possible from the public-marketing system.

In addition to the direct marketing benefits which a public-marketing system should confer, certain others equally valuable might be secured. These are briefly as follows:

FOOD STORAGE AND PRESERVING.—In every community where a considerable number of people live there should be the organized means of economizing foodstuffs. So intimately does this matter concern the public both in the manner and the outcome of its accomplishment that it should not be undertaken apart from the common effort and the common counsel of the public. It is properly a part of the public-market system.

Of measures already in partial operation, the one which contains most of promise for the economizing of foods is a system of storage which will out of seasons of plenty guarantee against lack in sea-

¹ Summary and Part I, p. 77.

sons of scarcity. More food, better food will be supplied; greater stability in supply and price will follow. Radical changes, however, are necessary to realize this promise. Losses arising at present from inadequate, ill-kept, and unavailable storage are pointed out at length in a succeeding chapter. It should be clear, therefore, in the light of such disclosures that such a system should provide storage adequate to all requirements, locally and nationally; should be nationally coordinated, strictly and uniformly regulated, and made available to all on like and reasonable terms. Storage in excess of known local or regional requirements should be made only at points of production or at strategic centers of distribution on the way toward probable consumption to avoid the necessity of useless handling and freighting. For example, to store great quantities of food, produced, say, in the Middle West, at points on the Atlantic seaboard, which will be consumed some hundreds of miles back in the interior, causes wasteful transportation and indicates badly located storage facilities. Frequent shifting of foods from one warehouse to another results in useless handling and loss of foods and points to misplaced storage or poor coordination in the marketing process.

Provision should also be made in the public market for the preserving by canning, dehydrating, or other processes of any surplus foods passing through the market whose food values are in danger of being lost. Such a service should be open to any licensee of the market upon his own order or that of an inspector at prescribed charges.

The serving of a plentiful supply of ice in the summer season may be fairly termed a utility only a little less important to the city household than is the serving of water itself. Not only is economy of food in the home dependent upon it, but comfort and health, since it checks the use of tainted food and milk, the prolific source of summer ailments. Complaint of short supplies, famine prices, and poor service is a matter of yearly recurrence. The maximum consumption of ice through a season of given temperatures is as predictable as that of water. Since ice must be manufactured and stored for refrigeration and storage purposes for the public market, there would seem to be no valid reason why it should not be wholesaled under regulations that would safeguard the public interest.

UNIFIED DELIVERY SYSTEM.—The excessively large wastage of food and useless expense arising from the carting of perishables back and forth over the streets of cities before they reach the retailer is shown in succeeding pages of this report. To lessen these losses terminals, storage plants, and markets should first of all be most conveniently located in relation to one another. But to reduce these losses to a minimum a unified system of delivery should be estab-

lished as a part of the public market. Such a system would provide equipment adapted to the safe and speedy delivery of all commodities handled through the public market from incoming car or truck through storage and market to the premises of the one buying from or through the licensed dealer or Federal agent of the market, and would eliminate the unnecessary duplicating of intramural delivery equipment and routing.

LICENSING OF SHIPPERS AND GOVERNMENT INSPECTION.—As pointed out in detail in this report losses occurring through inadequate grading, packing, branding, and inspecting at the shipping point are heavy. Tainted fruit or vegetables cause decay of the sound and in addition require the same expense of packing, shipping, and handling as do the sound. Products ill assorted as to size and quality lessen the value of the whole. Disputes between shipper and receiver and claims for losses are almost wholly due to the shipping of ungraded and uninspected products.

To eliminate these losses the United States Food Administration inaugurated a system of licensing shippers and receivers of certain products¹ and of inspecting at shipping and receiving points, which should not be thrown aside. Each shipper, aside from the grower, and each wholesale dealer was required to be licensed. Before a car could be billed the licensee must sort and grade his shipment. Grades were established to which the grading must conform. The local inspector, employed by the Government, was required to issue a certificate of inspection to the shipper stating shipper's name, car number, commodity shipped, and its grade. A second copy of this certificate was sent by the inspector to the consignee, a third to the food administration office of the State in which the shipment originated, and a fourth was retained by the inspector. A nominal fee of \$2 was charged the shipper for inspection. If a consignee was not satisfied with his shipment he notified the food administration office in the shipper's State and reinspection was ordered. If the car was wrongly graded the consignee might refuse the car and the shipper was required to pay the reinspection costs. If the car was correctly graded the consignee must accept the car and pay the reinspection costs. Even though the grower was not required to be licensed he found the protection which the inspection certificate carried an advantage and might avail himself of it where the quantities were considerable.

The benefits of such a system are obvious. Products found by the inspector to be unfit for human food are refused shipment. Growers are encouraged to work for a high grade, instead of bulk only. The shipper is protected against unjust claims, and when disputes arise

¹ Best developed with respect to western-grown potatoes.

with either receiver or carrier there is basis for quick settlement. Shipping is conserved. The dealer with fewer claims and less uncertainty can operate on a closer margin. Food is economized. Grades which will not keep long are forced on the market and consumed first, as they should be. The consumer gets the grade of food he pays for, and in the long run gets a better product at lower prices.

To accomplish these results a central Federal agency might well be authorized and directed to license all shippers, or marketing and shipping organizations of which such shippers are members, whose products are shipped to licensed dealers of public markets or consigned to others through such markets, and to prescribe regulations concerning grading, sampling, branding, inspecting, storing, reporting, packing, shipping, routing of shipments, keeping of records, and organizing of shippers.

MARKET INFORMATION.—It is to the advantage of each class, producers, dealers, and consumers that all should have intimate knowledge of all conditions affecting the market. The producer should be kept acquainted with the changing wants of the consumer—not only what he wants but how he wants it, what size of container or package is wanted, how packed, etc. He should know what markets want his products and what the approximate demand is at any particular time. He should be apprised of quantities received in the principal markets with wholesale prices actually paid, quantities reshipped, and quantities in transit. Full information as to conditions of distribution would be highly beneficial to the producer and not detrimental to the consumer unless coupled with concerted action in curtailment of production itself.

On the other hand, the consumer should know what foods are plentiful, both fresh and in storage; from what points and under what conditions foods are being shipped; quantities received each day at his market with wholesale prices paid; and quantities bought by local retailers with prices which they paid.

The wholesale dealer should have practically all the information required by both consumer and producer.

All this and other market information should be secured in an absolutely reliable form by a central Government agency and published in bulletins and daily papers over a Government official's signature, and made available to all interested parties.

CHAPTER II.

PRESENT ORGANIZATION OF THE WHOLESALE MARKETING SYSTEM.

THE MARKETING OF FOOD.

Section 1.—The nature of marketing.

The essence of marketing produce is the bringing together of demand and supply. More concretely, a market is a place in which buyers and sellers come into touch with each other. It is not, of course, implied that present or prospective owners of goods must personally appear in the market. Either or both may have a representative who is intrusted to do business for him. Even between such representatives there need be no personal meeting. Communication may be by letter, by telegraph, or by telephone. Ordinarily the men who do the work of marketing must give considerable attention to such matters as the transportation and care of the goods in which they deal; and no discussion of the subject would be complete which ignored the conditions under which the goods are actually handled. Primarily, however, marketing is a matter of purchase and sale.

The separation of marketing from the other phases of production is simply a case of the division of labor. The productive process, when fully developed, may be divided into four fairly distinct parts. These have to do with the creation of form, place, time, and possession utilities. The farmer, for example, directs the process by which the chemical constituents of soil and air assume the form of fruits or vegetables. The railroad carries them to a place where they are more needed than they are in the immediate vicinity of the farm. The storage company receives them at a time of relative plenty and delivers them at a time of relative scarcity. The market dealers put them into the possession of consumers, or if the work of production has not been completed, into that of other producers.

Under very simple conditions no such division of labor is necessary. The farmer may grow potatoes, store them for a short time on the farm, carry them to market in his own wagon, and finally sell them to consumers. Under complex conditions, especially when the original producer and the market are far apart, when the work of marketing takes a great deal of time, or when the goods can best be sold only in connection with those furnished by other producers, a division of labor along those lines is necessary. Indeed,

some parts of the productive process are, as a rule, elaborately subdivided.

It must not be supposed that the division of labor necessarily implies that the individuals, firms, or corporations engaged in different parts of the work are entirely independent of each other. Satisfactory mutual dealings naturally result in what is known as "good will" which, though intangible, is sometimes of considerable importance. Relations much more intimate than this are not infrequently maintained. In particular, the corporate form of organization furnishes a means by which those performing very different functions may be united.

As a matter of fact, a large part of the work of marketing farm produce is, in some cases, done by mutual cooperative associations of which the growers, directly or through subordinate cooperative associations, are members. In a number of other instances it is done by joint stock companies that are under the control of the growers and are very similar in many ways to the mutual associations. There are some cases in which men or corporations primarily interested in marketing have farms or orchards of their own, though so far as has been learned cases of this sort are unusual. Cold-storage plants are not infrequently owned, or controlled, by marketing or manufacturing companies. Some large manufacturing companies, such as canners and meat packers, have more or less elaborate selling organizations of their own. These rarely, if ever, reach the consumer, though direct dealings with retailers are not uncommon.

Section 2.—The marketing of food as a separate branch of trade.

Within the field of marketing, even in the narrow sense of the term, the division of labor is, at least at first glance, bewildering in its complexity. There are a large number of kinds of middlemen, or dealers, differing from each other in the kinds of products they handle, in the stage of the marketing process to which their activities are confined, in the functions they perform, in the scale on which they conduct business, and in the way in which they are organized. Between the most usual types there is more or less overlapping, one dealer, for example, handling lines of goods that are ordinarily handled by different dealers, or conducting part of his business in one way and part in another. Notwithstanding this complexity, however, it is possible to make some distinctions on the basis of the way in which things are ordinarily done.

With some exceptions the wholesale marketing of food products is pretty clearly differentiated from that of other commodities. The most important exceptions fall into two main classes: Marketing houses controlled by manufacturers and wholesale grocery stores. The branch houses of the meat-packing companies, which are, per-

haps, the most prominent examples of marketing houses controlled by manufacturers, handle a great variety of commodities, including in some cases nonfood products such as fertilizers, gut strings, sandpaper, soap, and wool. Some of these are clearly by-products of the packing-house industry. By far the greater part of the business of the branch houses, however, is in food products, including many with the preparation of which for the market the meat-packing houses have practically nothing to do. Upon the whole, there is no grave inaccuracy regarding the branch houses of the meat-packing companies as distinctly food-handling establishments.

The term "groceries" is commonly applied to some things that are not foodstuffs. Cigars and tobacco and certain kinds of woodenware, for example, may be regarded as among the regular grocery lines. In some cases "wholesale grocery" concerns handle goods quite foreign to the grocery business, such, for example, as notions and automobile accessories, which are wanted by the country stores and can readily be handled by salesmen of the wholesale houses. Cases of the sort, however, seem to be exceptional, and while it is probable that comparatively few wholesale grocers handle foodstuffs exclusively, there is little reason to doubt that in the great majority of cases they should be regarded as primarily food-distributing houses.

Not infrequently dealers in fresh farm products are found handling some things which, if not food, are in one way or another related to its production, such as hides, hay, fertilizers, or crates. Occasionally a concern will be found handling goods bearing no relation to its main line of business.

Doubtless there are a few cases in which food products are handled by concerns primarily interested in other things. Aside from mail-order houses, department stores, and the like, which purchase on a large scale but sell mainly at retail, concerns of this sort do not figure conspicuously in the wholesale markets.

Everything considered, the general statement that the marketing of food products, at least as far as wholesale dealings are concerned, is a distinct branch of trade, seems to be fully warranted. There are some exceptions but they are neither numerous nor of great importance. For most purposes they can safely be passed over.

Section 3.—Subdivisions in the food trade.

Within the field of the marketing of foodstuffs a number of subdivisions can be recognized, though the lines between them are not always clear. There is much overlapping, some concerns being interested in two or more of the subdivisions. Others are highly specialized, dealing in a very few specific products. The raw materials for certain manufactured goods commonly belong in one sub-

division, and the finished products in another. While, however, the lines between the different subdivisions are not sharp, there are a considerable number of dealers who clearly belong in a particular group. Bearing in mind that no classification can be made which is not open to some objection, the most important subdivisions may be said to be: Meat; fish and seafood generally; grain; groceries; fresh fruits and vegetables; butter, cheese, eggs, and poultry; and milk. In this report attention is devoted largely to groceries, fresh fruits and vegetables, and butter, cheese, eggs, and poultry, information on these various lines having been secured through hundreds of schedules and extensive field investigations.

The branch houses of the big meat-packing concerns sell many things that, so far as production is concerned, are not connected with the slaughtering and meat-packing industries. They have entered largely into the field of wholesale groceries, especially in canned and packaged goods, and many of the concerns usually classed as wholesale grocers fear that sooner or later the meat packers will acquire a substantial monopoly.¹ In the same way they have become a large factor in the butter, cheese, egg, and poultry business. Fresh fruit and vegetables are sold at some of the branch houses, but the extent to which this is done does not seem to be of great importance. The meat packers do, indeed, purchase considerable amounts of dried fruits, of canned goods, and of fruits and vegetables for canning. These, however, in the form in which they are sold by the packing companies may be regarded as groceries. At one time Armour & Co. owned the Earl Fruit Co., one of the most important shippers of California fruit, but in 1911 it sold its interests in this concern, and so far as is known is no longer an important factor in the fresh-fruit business.

The big meat-packing houses are not alone in dealing in more than one of the branches into which the food-marketing trade is divided. A few concerns in the wholesale centers who reported themselves as wholesale grocers, in returning schedules to the Commission stated that they were also commission houses. Only a little more than one-fifth of them, however, reported that they handled fruit or vegetables, not including under this head dried or canned goods, and in comparatively few cases did they carry a full line. Only about one in seven reported that they handled butter or eggs, and of these a considerable portion handled only one of the two products. The number carrying other kinds of foods was still smaller. Upon the whole, while the lines can not be sharply drawn, the wholesale grocery business is a fairly distinct branch of the food trade.

¹ See Parts II and IV, of the Report of the Federal Trade Commission on the Meat-Packing Industry.

Leaving out of account those who reported themselves as wholesale grocers, or who clearly belonged in that class, and confining attention to wholesale-market cities as distinguished from shipping points, more than half of the wholesale dealers in fresh fruits and vegetables returning schedules reported themselves as handling these lines only. Less than a third of them handled butter, cheese, eggs, or poultry, but comparatively few handle all of these. Less than one-fourth handled eggs, and the proportion carrying any other kind of food product was still smaller.

After what has been said in regard to the sale of butter, cheese, eggs, and poultry by the branch houses of the big meat-packing companies and by the dealers in fresh fruits and vegetables, it might be supposed that the former products were rarely handled alone. Of the wholesale dealers in wholesale markets who handle them, however, more than a third of those returning schedules reported that they carried nothing else except, in a few cases, cream, ice cream, milk, and sugar of milk. If in this class be included those who handle, in addition, such related products as oleo and lard, and a smaller number who handled peanut butter, cottonseed oil, honey, game, and rabbits, the proportion becomes nearly one-half. A little more than a third handled fresh fruits and vegetables, and this includes those to whom reference was made in that connection. Upon the whole, it would seem that notwithstanding the fact that the field of dairy and poultry products has been invaded by a number of dealers in other lines, especially by the branch houses of the big meat-packing companies, it is, nevertheless, fairly distinct.

As might be expected, the returns from dealers at shipping points show a lower degree of specialization, with regard to the subdivisions of the food trade, than do those from dealers in the larger wholesale market centers. In some cases, however, especially in highly specialized growing sections, there are large organizations that are interested in the marketing of a narrow line of products, such, for example, as fruit, or even a single kind of fruit. These often handle, in addition, various sorts of supplies needed by the growers of the products in which they deal.

Of those reporting themselves as handling fresh fruits or vegetables, or both, about two-fifths handled these lines only. Dried fruits and vegetables and nuts should, perhaps, be put in the same class, since the drying naturally takes place before shipment, and nuts are so similar to fruits that they may likewise be included. If this is done, the proportion in this class who confined themselves to it becomes about one-half. Most of the rest handled some kind of dairy and poultry products, especially eggs and butter. A few handled agricultural products or other kinds and a surprisingly large number carried fish or oysters.

Less than one-fourth of those handling butter, cheese, eggs, or poultry confined themselves to this class of products. The proportion, however, is appreciably increased if dealers handling certain related products and a very few other things are included. In view of the fact that butter, cheese, poultry, or eggs are handled by many dealers in fruits and vegetables, and that all of them are handled by the great meat-packing companies, it is hardly surprising that dealers in these products are not more sharply differentiated from those in other branches of the trade.

Section 4.—The wholesale and the retail trade.

In discussing the various subdivisions of the food trade attention was confined to the wholesale dealers, it being assumed that there is a fairly clear distinction between wholesalers and retailers. It is true that there are some dealers who systematically do business on both bases, and others who, though primarily wholesalers or retailers, do not confine themselves strictly to either branch. That there is a distinction between the two, however, is a matter of general knowledge, though there is no complete agreement as to the precise grounds on which the distinction rests.

In the popular mind the difference is commonly thought of as depending on the quantity of goods handled in a single transaction, large dealings being regarded as wholesale and small dealings as retail trade. Of much more importance in the minds of many business men is the character of the customers. So regarded, the wholesale trade is primarily concerned with the transfer of goods to other market dealers, and, in some cases, to certain other types of producers, such as packers or canners, while the retail trade is concerned with sales to consumers. This view is not universally held by business men, certain large dealers who sell to consumers, especially chain-store organizations and mail-order houses, feeling that it is legitimate for them to buy as wholesalers, and some wholesale dealers being willing to sell to anyone in quantities not less than one package, such as a box, a basket, or the like. For some purposes it does not make much difference which point of view is adopted, for purchases by dealers are generally large as compared with purchases by consumers. In other cases, especially when the reduction in the number of middlemen is under consideration, the matter is of some importance.

Among the wholesalers themselves there is, of course, some division of labor; and in many cases it is impossible to make statements in regard to them that have universal validity. As a general proposition, however, it may be said that the wholesalers are concerned with the assembling of the products of different growers or manufacturers, while the retailers are concerned with the distribution of

products, chiefly, at least, to consumers. From one point of view the difference is largely a matter of emphasis, for, strictly speaking, the wholesalers distribute to the retailers and the retailers assemble the goods furnished by a number of wholesalers. Moreover, there are some wholesalers or jobbers who secure most, if not all, of their supplies from the larger wholesalers and sell to the retailers. Notwithstanding some qualifications of this sort, however, the distinction is important. The problems involved in dealing with producers differ considerably from those involved in dealing with consumers, especially when, as is commonly the case, many of the former are scattered over a wide area.

Except when their buying and selling are both local in character the wholesalers are able to maintain a steadier supply, as regards both quantity and quality, than would otherwise be possible, since a surplus at one point may make up for a shortage at another. One of the chief functions of the wholesaler is therefore to know the markets; those in which goods can best be obtained if he be located at a consuming point; those in which they can best be disposed of if he be located at a shipping point. There are some important marketing organizations, such as the Northwestern Fruit Exchange and the California Fruit Distributors, that particularly emphasize this service. As regards certain highly perishable commodities, such as strawberries, the wholesalers dealing with widely scattered growers, or growers' associations, can keep a supply on hand for a much longer season than would be possible if they were dependent on one locality.

The needs of the farmers very commonly give rise to financial problems with which comparatively few of the retailers are in a position to deal. The wholesaler of produce usually buys on a cash or very short-time basis, and even when the goods are received to be sold on commission, remittance is usually made very soon after the sale. In some cases he actually advances money to the farmer, and a similar service is performed for some of the canneries by brokers. Sales to the retailers, however, are commonly made on credit.

It should also be noticed that, except in cases in which buyers and sellers are located near to one another, a considerable amount of time must necessarily intervene between shipment and delivery. This is of considerable importance in the case of goods that may deteriorate in transit, and the difficulties presented are in many cases intensified by the lack of definite rules for standardization and grading. Where the wholesaler pays for the goods before he sees them, as is frequently the case, and where the shipper waits for his payment till after the goods have been inspected on arrival at their destination, questions sometimes arise as to the quality of the goods, and consequently as to their value. Inspection by the Bureau of

Markets, Department of Agriculture, has done much to relieve difficulties of this sort, but it is obvious that less work is involved when the inspectors can confine their attention to a relatively small number of large shipments instead of giving it to many small ones.

This suggests another point. The wholesaler who deals in carload lots makes possible considerable savings in the cost of transportation. This saving, it should be noticed, is not merely a matter of freight charges. The justification for the lower rate on carload shipments lies in the fact that less work and less equipment are needed than in the case of smaller shipments because of the fuller loading of cars, less frequent stops, fewer delays, etc. Among the extra costs of handling small shipments must, of course, be included those that fall upon shippers and receivers, as well as those that fall on the transportation companies. In some important markets, for example, cartage is involved in the case of less than carload lots, whereas a car, the entire contents of which are intended for one receiver, is switched to the door of his place of business. Even when this is not the case, the problem of cartage is simpler, and the cost, therefore, less, when the quantities handled are large than when they are small.

It must not be inferred, of course, that an elaborate system of marketing is in all cases necessary or desirable. The operations involved in placing the products of the little truck gardener in the hands of near-by consumers are simple, and in some cases the gardener finds it profitable to attend to the matter himself. In most cases, however, the situation is much more complex, and an elaborate marketing organization in which there are many different types of dealers is fully justified by the work to be done.

While specialized dealers are needed, they are not necessarily independent workers. As has already been pointed out, growers sometimes control the marketing organizations that handle their products. (See p. 26.) In a somewhat similar manner retail dealers sometimes control buying organizations which perform some, at least, of the functions of the wholesalers. A large corporation, organized into departments can, of course, perform all or a part of the work of wholesaling and of retailing.

DEALERS AND THEIR FUNCTIONS.

Section 5.—Dealers in general.

There are a number of different types of wholesale dealing, differing from each other in the character of the functions performed or in the stage of the marketing process. In a general way it may be said that there are a corresponding number of types of dealers; but the same man frequently does business in more than one way or at

more than one stage in the process. Partly as a result, there is some confusion in the use of terms. For the sake of clearness, especially with reference to the problems that arise in connection with each type of dealing and the sort of regulation that is desirable in any particular case, it will be well to define the most important terms used as clearly as possible. Within each type, however, there are varieties so numerous and so slightly different from each other that little or nothing would be gained by an attempt to define them all or even to enumerate them. Attention will be given, however, to a few of these varieties, particularly in cases in which they tend to obscure the lines between the different types.

DEALERS.—Under the term “dealer” may properly be included all who take a direct part in the work of marketing whether or not they acquire title to the goods sold. In practice the term is loosely used, though it is sometimes confined to those who buy and sell on their own account. It is not ordinarily applied to the grower or manufacturer who merely puts his goods into the market, but does no more of the work of selling than this implies, nor to the purchaser whose relation to the market is that he buys goods there. It would apply, of course, to a farmers’ association whose business it is to sell the products of its members, or to a cooperative buying association.

MIDDLEMEN.—The term “middleman” is almost synonymous with “dealer.” It places, however, a certain emphasis upon the fact that the dealer is entirely independent of both the grower or manufacturer and of the consumer.

“Elimination of the middleman,” as the term is commonly used, frequently means merely that the grower or manufacturer himself does the work of marketing and gets the profits. In some cases, however, the work is simplified and the costs therefore reduced.

Section 6.—Dealers and the forms of dealing.

MANUFACTURER’S REPRESENTATIVES, BRANCH HOUSES, ETC.—The packer, canner, creamery man, or other manufacturer may have a selling organization of his own, which does a large part, or even all of the work of wholesaling. In some cases this organization consists chiefly of a corps of traveling salesmen, while in others permanent establishments or branches are maintained. It might possibly be argued that a selling organization which handles only the goods of the manufacturer responsible for it is not really a dealer at all, and should not be subject to the market regulations governing dealers. It is clear, however, that it is in the market and is performing functions very similar to those performed by dealers who are independent of the manufacturers; and it would seem that in any proposed regulation of the markets, organizations of this sort were too important

an element to be ignored. In the case of branch houses, such as those of the big meat-packing companies, which handle many goods that are in no sense the products of the main company, there can be no question. As regards this part of the business they are dealers in quite as complete a sense as if they were separately organized as such.

AGENTS.—Growers and manufacturers sometimes put the selling of their products in the hands of agents of one sort or another, and even a dealer may do this in a market in which he does not wish to do business himself. Frequently these agents are given exclusive authority to act in a given territory or even to handle all the products controlled by their principals, without regard to territorial limitations. Some of the large organizations dealing in fresh fruit and vegetables, for example, enter into contracts with the growers by which the former are made "exclusive sales agents" for the entire output of certain products. Generally speaking, these agents may be regarded as brokers or as commission men, though in some cases their powers are more extensive than those terms are usually taken to imply. In some cases payments received for the shipments of a number of growers are pooled, and the amount paid to each is based, not on the prices at which his goods were sold but on the amount of goods of a given grade or kind handled by the agent and money received for the entire lot.

BROKERS.—The broker is essentially a representative of the seller or of the buyer. He does not do business in his own name, but in that of his principal. Title to the goods remains in the seller until the transaction is consummated, and after that is in the buyer. Subject to these essential considerations there are a variety of ways in which the business may be done. At the one extreme the broker may merely negotiate the sale or the purchase, and report to the person he represents who, if satisfied, confirms all arrangements and ships the goods direct. In such a case the broker has nothing to do with the physical handling of the goods or even with the payments, receiving his remuneration directly from his principal. Strictly this is all that the work of the broker involves.

Frequently the broker does more than this. Commonly he furnishes his principal with information as to market conditions. Sometimes he attends to the collection of payments, and may even advance the money. In a number of cities in which large quantities can not readily be sold to one person, the brokers commonly arrange for pool car shipments, attending to the division of a carload among the various buyers after it arrives. If anything goes wrong with a shipment through losses in transportation, rejection by the buyer, or the like, the selling broker may attend to all details necessary for the protection of the shipper's interests. At this

extreme the functions of the broker become very similar to those of the commission man.

The selling broker may, of course, deal with the buying broker. He may even turn the business over to another broker, in which case he may split the commission or brokerage fee with him. Several brokers may therefore take part in negotiating a single transaction.

The broker commonly receives his remuneration in the form of a "brokerage" fee or commission, though in some cases he is paid a stipulated sum per week or other period of time. The fee may be either a definite amount per unit of quantity, as, for example, 6 cents a pound, or it may be a percentage of the price, $2\frac{1}{2}$ per cent being a common figure for certain kinds of goods. In some cases it is ordinarily less than this and in others more. In special cases it sometimes runs as high as 10 per cent.

The services of brokers are used to some extent in nearly all branches of the food trade, though they are particularly conspicuous in the case of canned goods. Generally speaking, brokers handle only large quantities, the carload being sometimes mentioned as the ordinary minimum. It would be a mistake, however, to suppose that they never handle goods in smaller quantities.

COMMISSION HOUSES.—The work of the commission house, or commission man, is in many ways similar to that of the broker, though the services of the former are ordinarily much more extensive and his authority greater. Like the broker, the commission man acquires no title to the goods, but sells them for the account of the owner, who is called the consignor. The commission man usually attends to all the details of the sale, including the physical handling of the goods and the collection of the payment for them. In most cases the price is left to his discretion, and no confirmation of sale is necessary. Having the goods in his possession he is able to deliver them to the purchaser.

The remuneration of the commission house, as its name implies, is ordinarily an agreed percentage of the selling price. This is usually higher than that paid the broker, 10 per cent being a common figure, though it is often more or less than this. Where the business is done on a strict commission basis and proper accounting methods are followed, the commission house makes a return, called an "account sales," to the consignor showing the price received, the deductions for commission, and any expenses properly charged against him, such as, in some cases, cartage. The amount due the consignor is remitted with the account sales or later.

Sometimes, however, the commission house does business on a "net sales" basis, reporting to the consignor simply the amounts due him. In such cases it may be understood by all parties that the

price on which the return is based is not necessarily that received for the particular consignment and even the commission is not definitely fixed. The price may be simply the average received for those in a carload containing a number of consignments, or even the current price on the market at the time of sale. It is obvious that a practice of this sort makes possible various abuses, but when the dealer is honest the consignor is protected against certain risks. The first boxes of fruit unloaded from a car, for example, may bring a better price than the last; and the consignor may be willing to forego the resulting chance of gain in order to avoid the possibility of loss. The rules of the Food Administration imposed on commission houses the duty of making full returns, save where the consignors definitely approved a different policy; and, at least in some cases, it is clear that this approval was given.

WHOLESALE MERCHANTS.—The merchant is a middleman who buys in order to sell again. It is true that the term "merchant" is not the usual one, though merchandising is often spoken of as distinguished from commission dealings. As a matter of fact, there is no one term that is consistently applied to a concern that does a buying and selling business. Sometimes the term "dealer" is thus restricted in its meaning. "Wholesaler" is sometimes even more narrowly used, applying only to the merchant whose transactions are very large, or who deals with the retailer through another middleman. The term merchant, however, is fairly clear, and except when it is desired to distinguish between different varieties of wholesale merchants there is very little chance for confusion in its use.

The merchant differs from the broker or commission man in that the title to the goods in which he deals ordinarily vests in him, and his gross profits depend on the difference between the buying and the selling price. He thus assumes the speculative risks of the market, subject only to the qualification that in the event of his bankruptcy those who have extended credit to him may lose.

JOBBER.—The jobber is a merchant who deals directly with the retailer. He commonly secures his own supplies in the same market as that in which he sells them, buying from other wholesale dealers of one type or another. The jobber, as distinguished from the larger wholesale merchant, does not appear in all cases. In large markets, and particularly where, as in Chicago, great quantities of goods are shipped out as well as in, the existence of a separate class of jobbers may mark a useful phase of the division of labor. There is reason to think, however, that in some cases a better organization of the markets would render unnecessary a large part of the work done by the jobbers and, by eliminating them as a separate class, would reduce the costs of marketing (see p. 33).

SPECULATORS.—The speculator might possibly be regarded as a variety of merchant since he buys in order to sell again; and frequently the same man is both merchant and speculator. The speculator, as such, however, differs from the merchant in that he does not aid in the movement of goods from the original producer to the consumer.

He depends almost entirely for his profits on changes in market conditions, whereas in the case of the ordinary merchant these changes are an unavoidable incident.

The speculator, as such, does not necessarily handle the goods in which he deals. In some cases he buys them, has them put in storage, and finally has them delivered. Indeed, what he buys or sells is merely the right to demand delivery, and the matter may be finally settled by a payment of the profit or loss, there being no actual delivery of the goods. Speculation of this sort, however, is less common in the case of perishable than of staple goods.

There are a number of abuses that are sometimes connected with speculative dealings. Some of the worst of these arise out of the fact that risks may exist not only as unavoidable incidents of marketing but as a result of the activities of the speculators themselves. Examples of the latter are furnished by manipulation and monopolistic practices of one sort or another (see pp. 180-184).

Section 7.—Dealers and their position in the markets.

The terms which have just been defined relate to the form of dealings or the methods of doing business. There are a number of other terms that relate to the position of some of these dealers in the markets.

COUNTRY COLLECTORS.—The country collector is a dealer who visits farmers, country stores, and the like, for the purpose of gathering a sufficient quantity of goods to justify shipment. Considerable amounts of country butter and of eggs are received in the wholesale markets from collectors of this sort. They constitute a type of middleman, however, whose services are needed chiefly by the small farmers. In the case of the large producer, this work of collecting is unnecessary and the expense incident to it may be avoided by direct shipments, or by sales to the large local dealers.

SHIPPERS.—Broadly speaking, a shipper is anyone who makes arrangements with a transportation company for the carriage of goods. The term, however, is sometimes applied in a restricted sense to anyone an important part of whose business is the sending of goods from the growing districts to dealers in the wholesale markets. Such a shipper usually has the facilities and equipment for the proper packing of the goods, a business large enough to permit car-lot shipments, familiarity with the business methods of the transportation

companies, and either market connections or such a knowledge of the markets that connections can readily be formed. Frequently the goods are sent for sale on commission, but sometimes they are sold outright. The term "shipper," in the narrow sense, is not ordinarily applied to the dealer who buys goods in a distant market and has them shipped to himself.

RECEIVERS.—In the same way there are some dealers in the wholesale markets who describe themselves as receivers. A concern of this sort is one that devotes a large part of its time and attention to handling goods sent to it by distant shippers. Commonly its transactions are larger than those of the general run of wholesale dealers, and the latter may be numbered among its customers.

EXCHANGES.—There are two very different kinds of organizations that are called exchanges. One of these serves as a connection between the growers and the dealers in distant markets. The other is an association of dealers in a market city which furnishes facilities for carrying on business and serves its members in various other ways, but does not itself engage in trading.

A feature which especially characterizes most exchanges of the first type is the intimacy of their relations with the growers. Some are mutual cooperative associations of which the growers directly or through subordinate associations are members. Others are joint-stock corporations; but, at least in some cases, a majority of the stock is in the hands of the growers. Commonly the exchange is the exclusive selling representative of those for whom it acts, charging them a flat rate or a commission for its services, though sometimes the latter are allowed to sell independently under certain specified conditions and the exchange may sometimes buy from growers whom it does not regularly represent in the markets. Ordinarily it aims to include within its organization as many growers as possible. The exchange commonly attends to the inspection and grading and packing of products and does what it can in the way of aiding growers to get the best results from their work. It keeps informed, through its own representatives or otherwise, as to the best markets and often does much to develop them, especially through extensive advertising. Shipments are sometimes pooled, so the price received by the grower is not necessarily the actual price less the commission and expenses.

Exchanges of the second type are found in several branches of the food trade, but are particularly conspicuous in the case of butter and eggs. Exchanges of this sort do not themselves engage in the work of marketing, but furnish members with a place in which to do business and in various ways look after their interests. The members are, as a rule, wholesale dealers of all sorts, and commonly

only a part—often a small part—of their business is done on the exchange. Trading on the floor of the exchange commonly takes the form of bids and offers, which are openly made and posted on a blackboard. Transactions on the exchanges commonly serve as a basis, sometimes the only basis, for the published market quotations.

PACKERS.—The name “packer” is frequently applied to almost any concern a large part of whose business is to put up food products in packages. Frequently the packer does not materially modify the form of the goods he handles. Some of the dried-fruit packers, for example, buy dried fruit in bulk and put it up in small packages bearing their own brand. On the other hand, the canners are sometimes spoken of as packers. The term is really a general one, including some manufacturing concerns and some that are engaged almost exclusively in marketing.

DISTRIBUTORS.—The primary function of the distributor is to direct the shipment of products from the growing districts to the best markets. One very important case has been found in which a corporation, practically, though perhaps not strictly, cooperative in character, confines itself almost entirely to naming the markets to which the products of its members shall be sent. Generally speaking, however, distribution is incidental to some other part of the work of marketing; and the name is sometimes applied to certain large dealers who handle goods as brokers or merchants. It is obvious that to do work of this sort effectively the distributor must be in touch with the markets in various parts of the country. In some cases this is done through branches or employees of their own, and in others through brokers with whom more or less permanent arrangements are made.

Section 8. Market tendencies and types of dealing.

It is a common thing for a given dealer to handle goods on more than one basis. Some brokers, for example, are also merchants. The same is true, apparently to a much greater extent of commission houses. In fact some concerns whose names would indicate that they are commission houses do a comparatively small part of their business on commission, and apparently wholesale dealers who do business in this way only are less common than those that do a merchandise business as well. As a result a grower sometimes has the option of shipping goods to a dealer on either basis, and sometimes he will ship goods on commission to a dealer who is, at the time, unwilling to buy. Dealers sometimes themselves purchase the goods consigned to them and there may be little objection to this when it is done with the approval of the consignor and without commission. Under the rules of the Food Administration they were required to notify the consignor of the fact when this was done (see pp. 35-36), and regula-

tions of the sort did much toward the elimination of dishonest practices in the trade.

Some brokerage and commission houses that are doing a part of their business on a merchandise basis are evidently in a state of transition. Since the broker or commission man need make no investment in the goods, less capital is needed than in the case of a merchant. With success, however, capital may be acquired and a credit position built up that will permit borrowing. Moreover, a knowledge of the markets and the ability to judge conditions is acquired, and, as a consequence, the merchandise business becomes more attractive. The fact that handling goods on either basis opens a wider field for the dealers' activities, is not, perhaps, without its influence, though there is a distinct movement on the part of some dealers to confine themselves largely, if not entirely, to merchandise dealings.

While certain forms of the brokerage business, particularly that represented by the great fruit and vegetable exchanges, are apparently increasing, there are signs that the commission business is declining. The mere fact that particular dealers are operating more largely on a merchandise basis is not itself conclusive, since new firms with comparatively little capital might be taking their places. The testimony of dealers in a number of scattered markets, however, is that the commission business, as a whole, is decreasing in importance and in some places little or none of it is done.

One of the reasons for the decline of the commission business and for its unpopularity among many of the wholesale dealers is the fact that the consignors are very likely to suspect that they have been victims of unfair dealing when results have not been satisfactory. Some of the commission men who voice this feeling frankly say that the practices in the business have been such as to furnish some grounds for suspicions of the sort. It must not be inferred, however, that such unfair dealing is the rule. Some of the producers and dealers at shipping points regard the commission houses as the best means of marketing their goods, and comparatively few of those reporting to the Commission expressed any special distrust of dealers of this sort. Neither is sharp practice in the food trade, such as exists, confined to commission dealings. Merchants, who buy outright, when confronted with a decline in the markets, will sometimes reject a shipment claiming that the goods are in bad condition or, if ordered f. o. b. point of shipment, that they are not as represented. Government inspection has done much to cure the evil, and has met with the hearty approval of large numbers of shippers and receivers.

Probably the chief reason for the development of the merchandise at the expense of the commission business is that the former represents a more logical and economical organization of the work of marketing. The dealer who is constantly in touch with a given mar-

ket becomes a specialist in the work of that market. He is therefore in a better position to know its needs and to bear the burden of its risks than is the distant shipper. Besides this, he has a greater stake in the result if he has actually bought the goods he sells. The grower, and even the larger shipper, are specialists at an earlier stage of production.

It is therefore not surprising to find that not only the dealer in the large wholesale markets, but producers and dealers at shipping points commonly express a preference for merchandise dealings. Most of these favor selling for cash f. o. b. point of shipment. The chief reason given is that when this is done the matter is settled, and that all risks are avoided. Only a few specifically mention sharp practices on the part of commission men or merchants to whom goods are sent subject to inspection, but it is possible that some of the others who speak of risks have it in mind. A relatively small number of those making returns sold goods delivered subject to inspection at destination. The number of these, however, is larger than the number who prefer to sell on commission.

In view of the advantages of merchandising the question may be raised as to how the commission business reached the point from which, apparently, it is now declining. It must be remembered that the organization of the market is a result of growth. When markets were purely local the farmer was in a much better position to know the conditions and consequently better able to take the market risks. There are some risks, moreover, which the merchant does not wish to take. One of these is uncertainty as to the sort of products he is buying. In the absence of proper methods of standardization and grading, the merchant who is not dealing with a seller whom he knows well and favorably can protect himself only by a minute inspection, and this introduces an element of cost that is at least partially avoided in the case of commission dealings. In some cases where the risks are so great that the merchants feel that they can not handle them well, they refuse to assume them. It appears also that the commission house furnishes an outlet for the man who makes only an occasional shipment and is not regularly in touch with the market. Though one of the disadvantages of the business is said to be that consignors do not give proper consideration to the needs of the market, yet there are many growers who can not be expected to know much about the market needs, and the commission men furnish them with the best available means of disposing of their products.

The brokerage business differs in important respects from the commission business, and this goes far to explain the fact that the former shows no such tendency to decline as does the latter. Dealings on commission and on a merchandise basis are, generally speaking, alternative methods of accomplishing the same thing, whereas the broker is

usually a middleman between the grower or manufacturer and the wholesale dealer. Although, like the commission man, the broker is an agent, he deals with the merchant rather than with the commission man as such; and the development of marketing on a merchandise basis is, in itself, not unfavorable to him. On the other hand, the development of marketing organizations of their own by manufacturers or growers naturally works in the direction of eliminating the independent broker.

TRANSPORTATION AND MARKETING.

Section 9.—The significance of transportation.

The development of transportation facilities during the last century has not only greatly reduced the cost of carriage and the length of time needed, but has provided so well for the care of goods in transit that it is now practicable to ship even highly perishable products for great distances. As a result, any important consuming center can draw most of its food supplies from the producing sections of a very large area; and in these supplies are included some things that under earlier conditions must have been known to it chiefly by reputation, if at all. To-day the potatoes of Florida may be, and sometimes are, sold in the State of Washington, and the citrus fruits of southern California find some of their markets in Maine. Perishable foods may be sent great distances by sea as well as by land. New York, at least in normal times, receives grapes from Spain, and one of the large fruit distributing companies of the Pacific Northwest reports that before the war it shipped apples to Sweden, Australia, and the Philippine Islands.

No figures are available to show to just what extent transportation for any considerable distance is involved in the marketing of foodstuffs; but such as can be obtained indicate that it is enormous. During the year ending June 30, 1916, for example, the amount of fruit and vegetables alone carried by the railroads of the United States was 41,392,796 tons, of which 23,200,733 tons were received from connecting carriers,¹ and the tonnage had been rapidly increasing for a number of years. Such figures, however, throw only a general light on the situation, for they show nothing as to the distances traveled, though it is safe to assume that in the case of tonnage received from connecting carriers these were considerable.

In this connection it should be remembered that freight rates are an element in the expense of placing goods on the market, and that distance is generally only one factor in the making of a freight

¹ Interstate Commerce Commission, 29th Annual Report on the Statistics of Railways in the United States, p. 43. These figures do not include those for railways having operating revenues of less than \$100,000 a year.

rate. To get the traffic, railroads serving distant points make such rates as will enable the shippers there to compete with those that are relatively near to the market; and the nature of the railroad business is such that it is often considered better, from the point of view of the carrier, to secure traffic at a low rate than not to secure it at all. The freight rate on apples from Syracuse to New York, a distance of 272 miles, is 22½ cents a hundred pounds.¹ From Yakima, Wash., to New York, a distance of 2,973 miles, it is \$1.10. This amounts to a difference in favor of Syracuse of about 37 cents a box, and while something must be added to cover loss in transit, the total difference is not sufficient to prevent Washington from being New York State's most serious competitor in New York City (see below, p. 49). Tampa, Fla., is 1,430 miles from Boston, and Los Angeles is 3,273 miles, yet the former city has an advantage of only 26 cents or so in the freight rate on a box of oranges (rates for Los Angeles are quoted per hundred pounds). Eggs reach Washington, D. C., from Purcellville, Va., a distance of 45 miles and from Morristown, Tenn., a distance of 465 miles. The difference in rate, however, is only 31½ cents a hundred pounds, or a little less than half a cent a dozen.

Section 10.—Geographical specialization in food manufacture.

Geographical specialization is marked in the case of certain manufactured food products for which reasonably cheap transportation, but no highly specialized equipment, such as refrigerator cars, is required. In many cases localization of manufacture is accompanied by some localization in the production of raw materials, for when the latter are highly perishable those responsible for the establishment of a manufacturing plant will naturally wish to be near the sources of supply, and the plant, when once established, tends to stimulate the local production of raw materials.

Chart I² gives a fairly good idea of the extent to which geographical concentration in the manufacture of certain of these products has developed. In all cases the commodities selected are the most important of their class as measured by the value of the output. Peaches, pears, apricots, apples, and cherries, for example, are, on this basis, the most important of the canned fruits. All States producing as much as 5 per cent, in round numbers, of the total of any commodity are given separately, the rest being included under the head of "All other." The figures are, of course, intended to include only the commercial production.

The preeminence of California in the production of dried and canned fruit is striking. In dried apricots, peaches, raisins, and

¹ Figures in regard to distances and rates furnished by the Interstate Commerce Commission.

² Does not include Alaska.

prunes that State nearly has the field to itself, and in the case of apples it ranks second to New York, the two States together producing nearly 90 per cent of the total for the United States. Canned fruit shows a somewhat lower degree of concentration, but even here California produces more than 90 per cent of the apricots and peaches and more than 70 per cent of the pears. There is much less concentration in the production of canned vegetables, yet even in the case of canned corn, the most widely distributed of all those considered, there are only seven States that produce more than 5 per cent of the total, and these seven together produce 84 per cent of the American product. Practically all of the canned salmon comes from the two States of Washington and Oregon, and only a slightly smaller proportion of the sardines from Maine. Massachusetts furnishes 76 per cent of the salt cod and 96 per cent of the salt mackerel. Dairy products show a much wider distribution, yet even in the case of butter, the most widely distributed of all the products shown in the chart, there were only eight States that produced as much as 5 per cent of the total, and six of these were in the north central part of the country. The other two, California and New York, produced 8 per cent and 5 per cent, respectively. All of these eight States together produced 70 per cent of the national total.

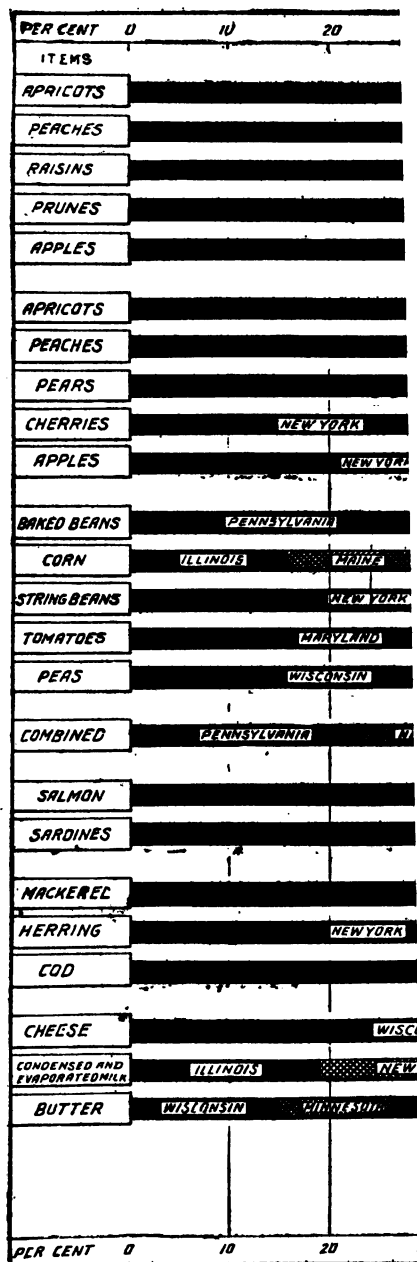
Such geographical concentration of production practically makes it necessary for most of the consuming centers to draw their supplies from a considerable distance, and this implies a fairly high degree of market organization. There is a tendency for some of the large manufacturing establishments to maintain a sales force of their own through which they can reach the buying markets, but it is obvious that only large concerns can stand the expense necessary to reach the markets in this way. In some cases dealers place orders directly with the factories, but cases of this sort seem to be exceptional. Considerable quantities of canned goods reach the market through the branch houses of the big meat-packing companies. The most common method of selling, however, seems to be through brokers. This is what might be expected where dealings are fairly large and buyers and sellers are far apart. It seems highly probable, however, that geographical concentration of production is among the circumstances favorable to centralized control of marketing. This is particularly the case when there are already in the field a few concerns with elaborate selling organizations whose work can be rounded out by the addition of lines which can readily be collected and for the handling of which no specialized organization is required.

Section 11.—The growing districts and distant markets.

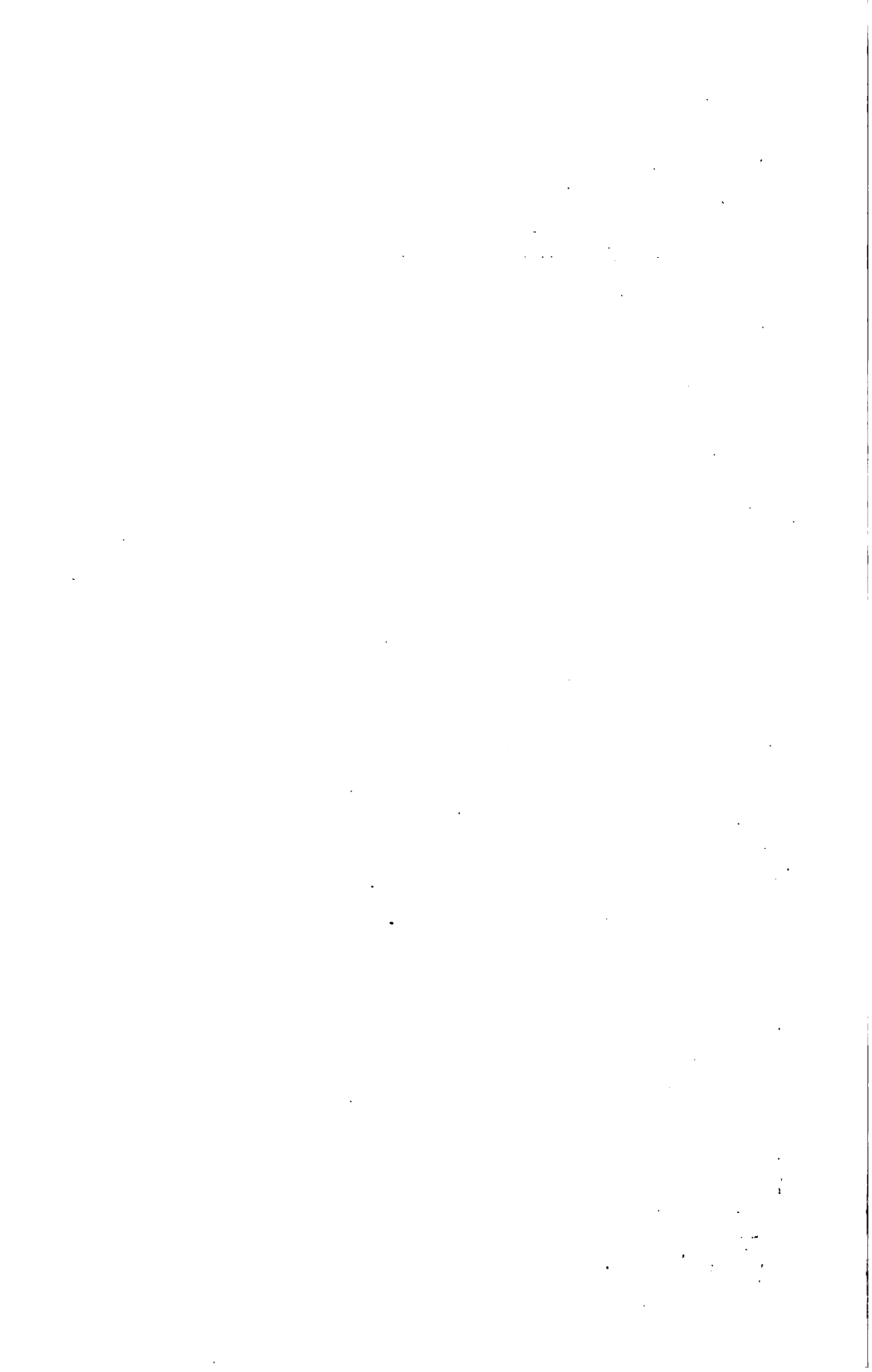
The variety of fresh fruits and vegetables is so great and the places in which most of them are grown are so numerous that any compact

IN THE PRODUCT

All States with a production of less than 1 percent of the total production of the other." Data as to canned, dried and evaporated milk, pp. 22-23, 30-31; those as to condensed milk, pp. 18-19.



NOTE.—The figures given do not include those with a production for the year value less than 1 percent of the total production of the other. Data as to canned, dried and evaporated milk, pp. 22-23, 30-31; those as to condensed milk, pp. 18-19.



statement of the sources from which they are derived or the distances traveled would be quite impossible, even if exact figures were obtainable. The Department of Agriculture, however, has collected, for a considerable number of commodities, statistics relating to the car-lot shipments unloaded in some of the most important markets.¹ A few illustrations, based on the data thus assembled, will help to make clear the extent to which perishable foods are brought from a distance and the resulting need of a market organization capable of serving far-away and widely scattered shippers. Quantities of goods received by water, reduced to car-lot equivalents, are included, but even so the results are necessarily somewhat incomplete. Generally speaking, less-than-car-lot shipments are not included. On the other hand cars placed on team tracks were reported, though in some cases shipped on without unloading. On the whole, the figures may be regarded as extremely conservative, and the need they show for a well-organized market, however great it may be, must be regarded as the minimum need.

Maps I, II, and III show the amounts of white potatoes, peaches, and strawberries unloaded from railroad cars or from boats in New York, Chicago, and Minneapolis during 1917, and the States from which they came. (The figures on which these charts are based were furnished by the Bureau of Markets. Certain small amounts reported as of "various" or "unknown" origin are not included in the charts.) Goods unloaded in a given market may, of course, be shipped out again, and consequently the same goods may be unloaded in more than one place. Such goods, however, commonly pass through the hands of dealers in any city in which they are unloaded, and consequently involve the use of the market organization.

New York is chosen as one of the markets to be represented, partly because of the importance of the city itself and of the consuming district of which it is the center, and partly because, like a number of other large cities, it is located on the eastern seaboard. Chicago is a large inland city which can draw its supplies from many directions and is of immense importance as a distributing center. Minneapolis is taken as a type of market much smaller than New York or Chicago, but of considerable importance.

White potatoes are one of the most largely consumed vegetables and one of the least perishable. They are grown in considerable quantities in every State in the Union, and most of the States near the markets here considered are among the largest producers.² In

¹ A number of studies in which detailed figures are given have already been published by the Department of Agriculture.

² Yearbook of the Department of Agriculture, 1917, Tables 80 and 82, pp. 658-659. Arizona, which according to these estimates was the smallest producer in 1917, had an output of 420,000 bushels.

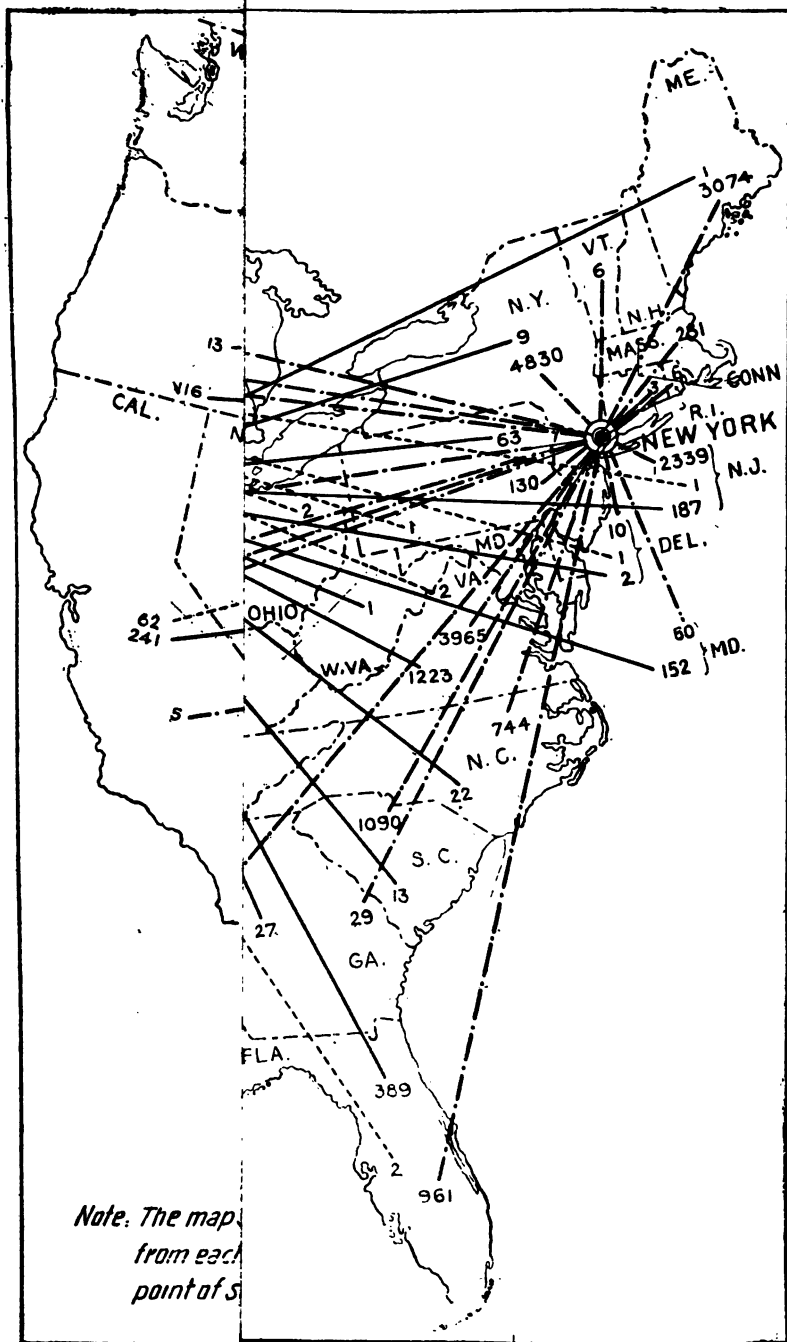
1917, white potatoes to the amount of 17,891 carloads were unloaded in New York City. Considerable amounts were secured in Florida, the Carolinas, Virginia, and Maine, and a few were brought from far-away California. Chicago received an equivalent of 9,537 carloads, and these came from 41 out of the 48 States, including as fairly important sources of supply Florida, California, and Washington. At Minneapolis only 971 carloads were unloaded, potatoes being received from 29 different States.

Peaches are more highly perishable than white potatoes, and though grown over a wide area their production is more concentrated.¹ While California produces a much larger quantity of peaches than any other State, it must be remembered that a large part of her output reaches the market in a canned or dried form. In 1917 the peaches unloaded in New York City amounted to 3,617 carloads. One thousand and ninety-nine carloads, or a little more than 30 per cent, came from Georgia. Shippers in Arkansas and Texas sent peaches to the New York market, and, in all, 15 States were there represented. As in the case of white potatoes, Chicago, though receiving a much smaller quantity than New York, drew on a much wider area, substantial amounts being received from Georgia, Texas, California, and Washington. Minneapolis received peaches from 13 States, 82 per cent of those coming in car-lot shipments being from California and Washington.

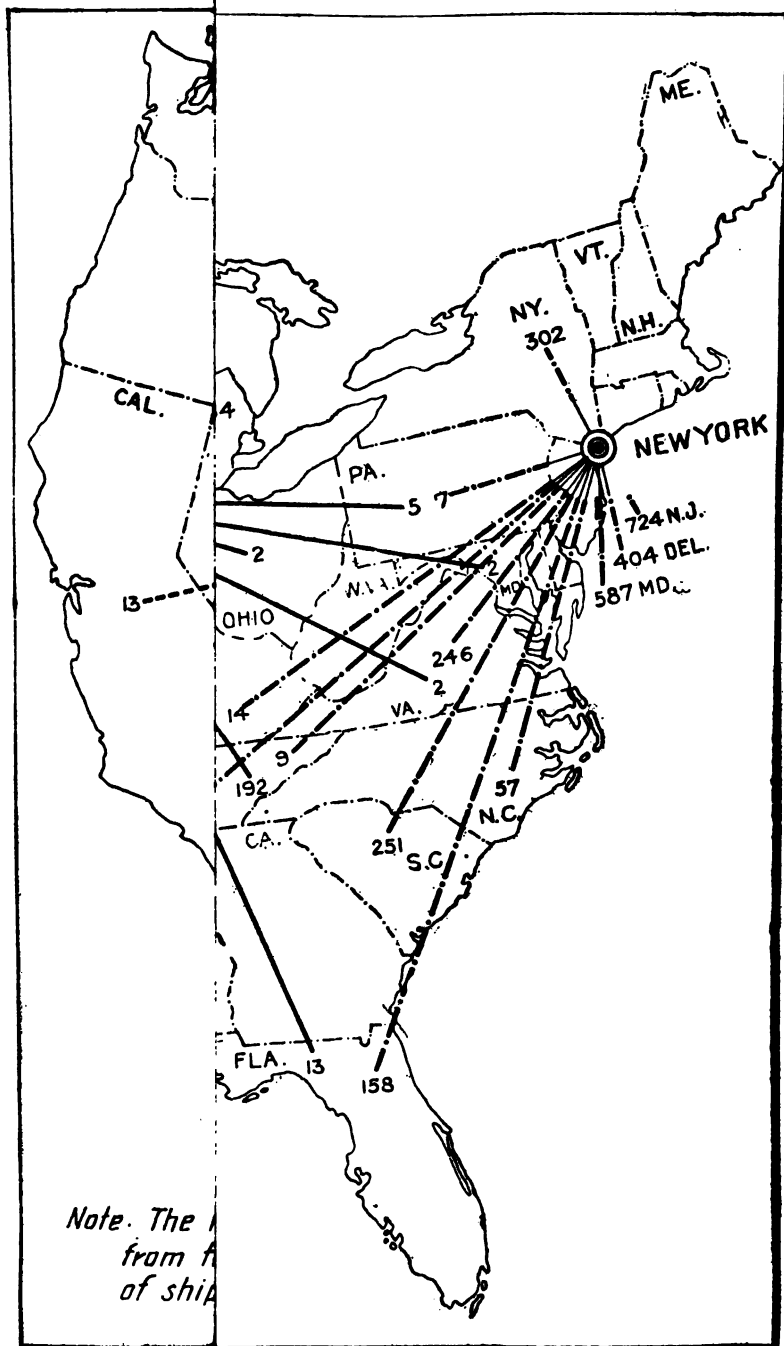
Strawberries are among the most highly perishable of agricultural products. They are grown to some extent in practically all the States, though, except in California and Florida, the shipping season is short, ordinarily lasting from one to two months. (See Chart II, p. 47, taken from Department of Agriculture, Bulletin No. 237, p. 5.) In 1917 there were unloaded in New York 2,775 carloads. About half of them came from Delaware, Maryland, South Carolina, and Virginia, and just one-fourth of the States had shippers who were interested in the New York market. Chicago received 909 carloads, furnishing an outlet for shippers in 17 States, the most distant being Florida and Texas. About 60 per cent of the 199 carloads received at Minneapolis came from Louisiana and Missouri, and, in all, a dozen different States were represented.

Without going into further detail as to the sources from which fresh fruits and vegetables are secured, it is worth while to notice the number of States that are interested in the marketing of a few important commodities in the cities for which information has been secured. The facts are presented in Table 1, p. 48. It will be noticed that in more than half of the cases given, 10 States or more are interested in the marketing of each product in each city.

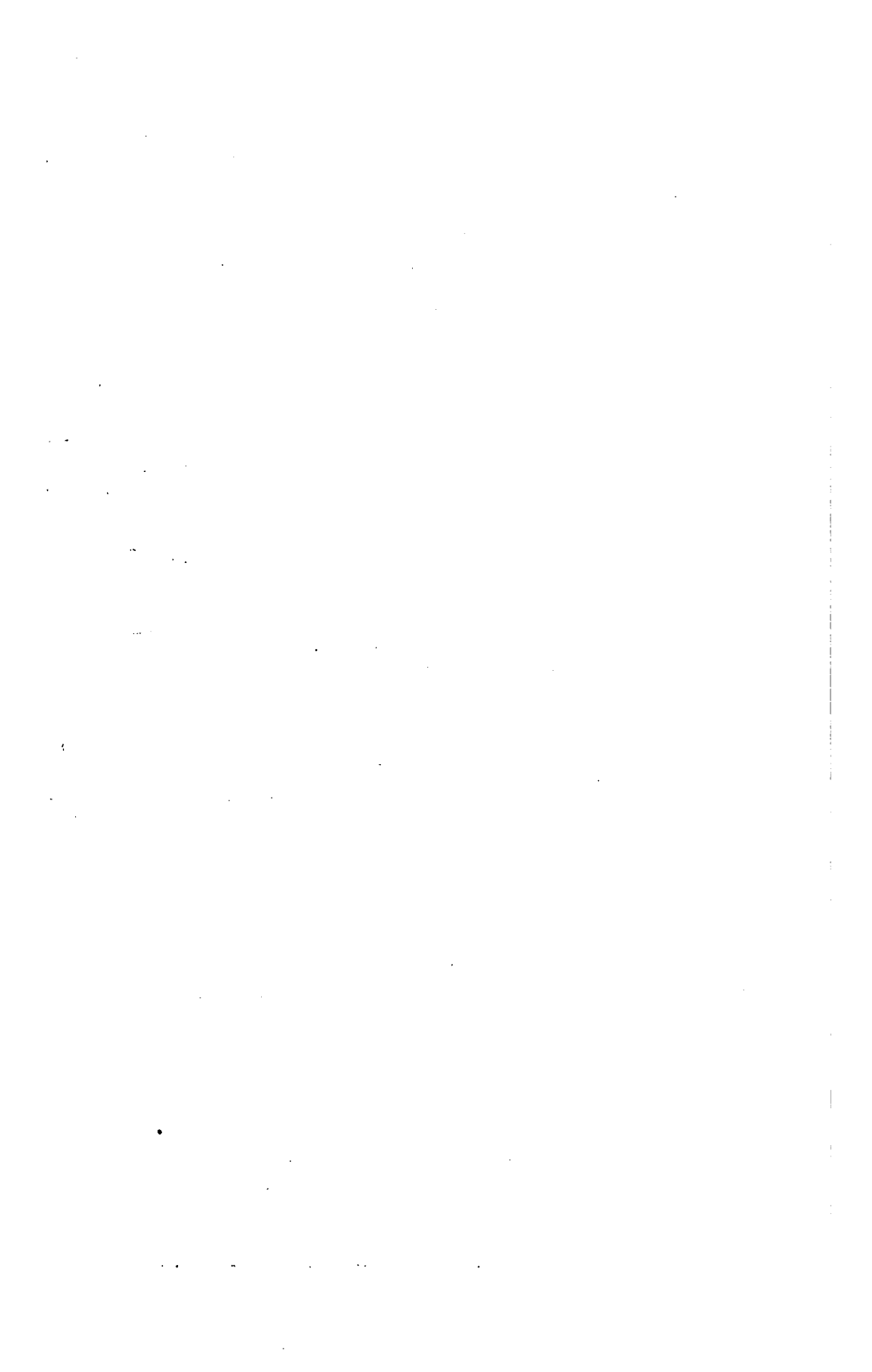
¹ Yearbook of the Department of Agriculture, 1917, Table 118, p. 683.

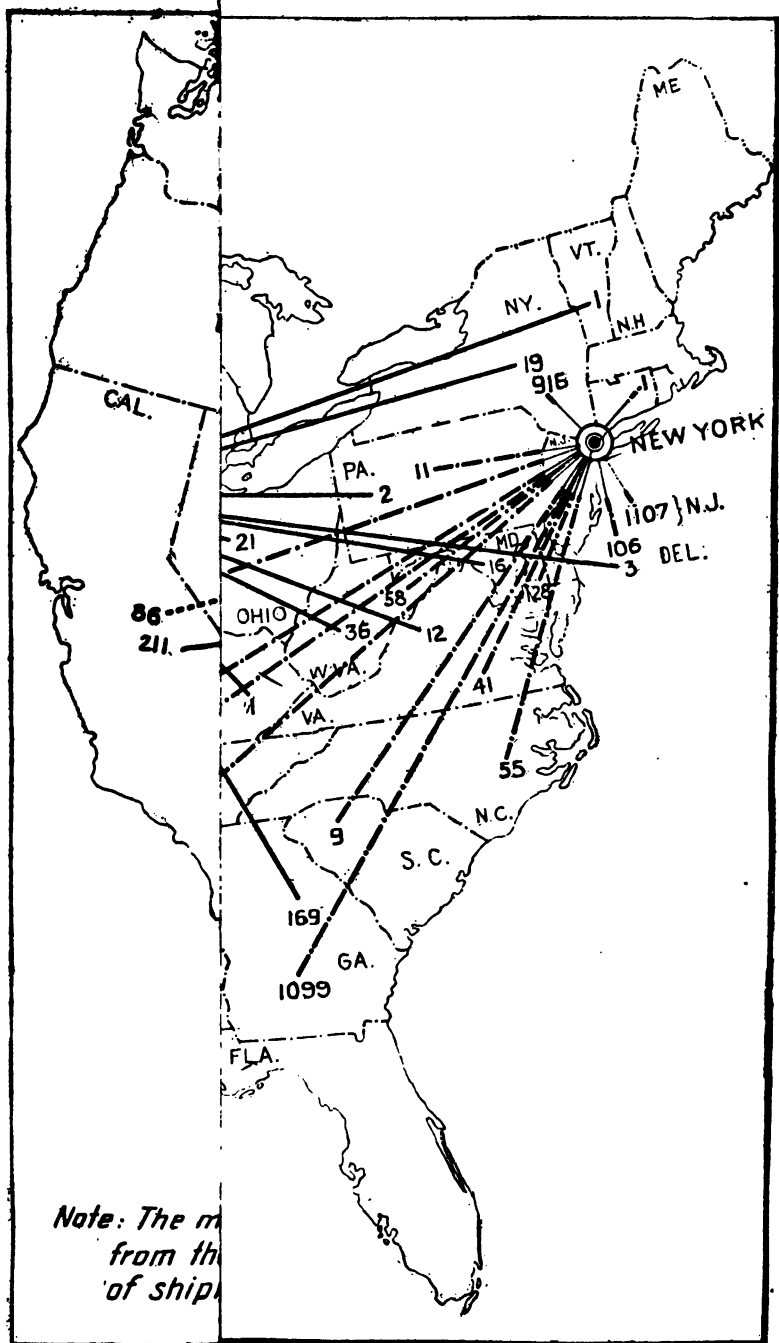


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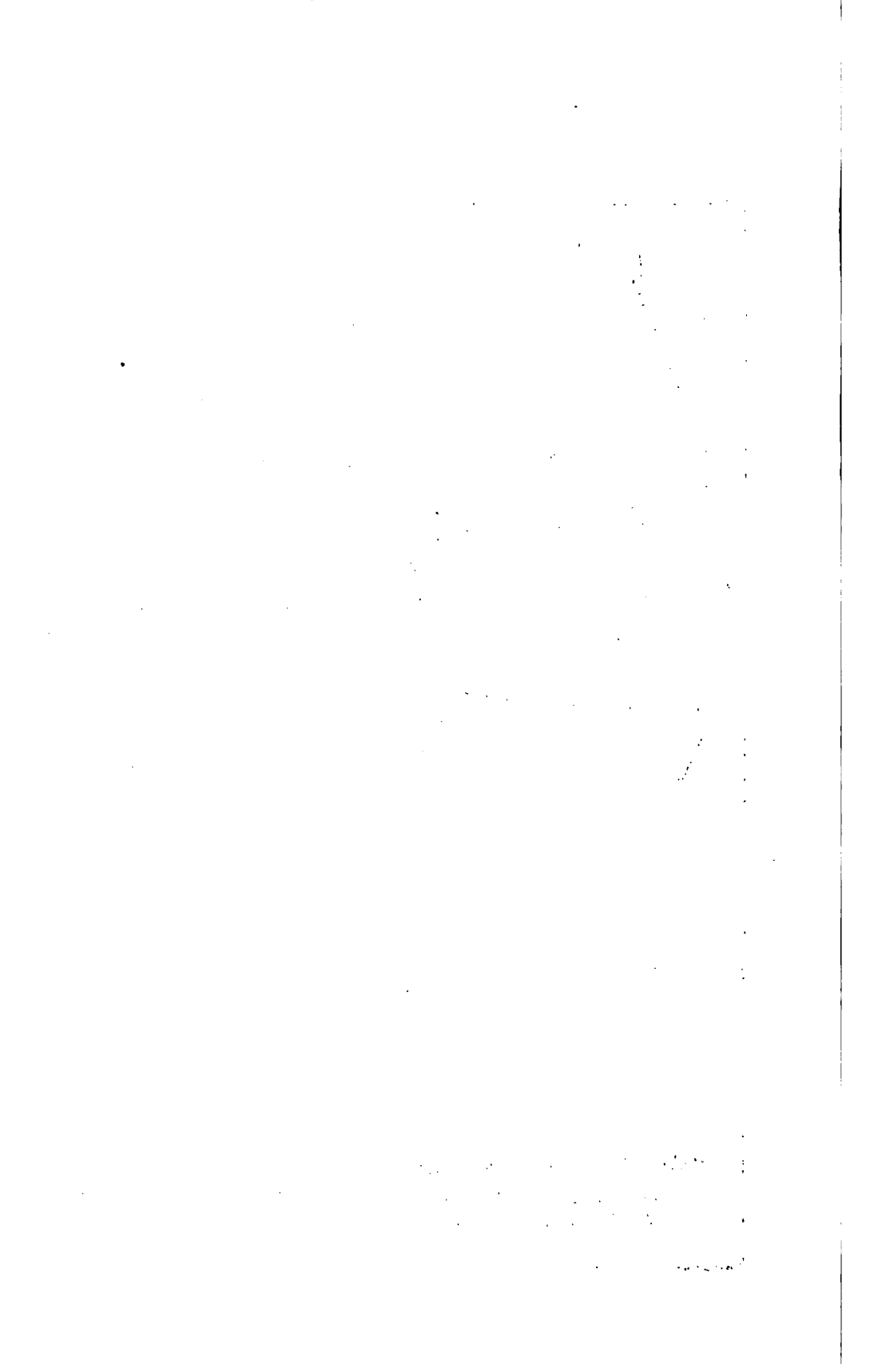


TABLE 1.—*Number of States interested in the markets of 16 cities for specified commodities.*

[The figures given for the different markets were furnished by the Department of Agriculture.]

Cities.	White potatoes.	Sweet potatoes.	Cabbages.	Tomatoes.	Cantaloupes.	Apples.	Peaches.	Strawberries.
	<i>States.</i>	<i>States.</i>	<i>States.</i>	<i>States.</i>	<i>States.</i>	<i>States.</i>	<i>States.</i>	<i>States.</i>
Baltimore.....	15	3	11	8	9	11	10	5
Birmingham.....	19	6	16	1	5	21	4	1
Chicago.....	41	21	23	21	19	32	28	17
Cincinnati.....	31	13	17	11	17	22	19	7
Columbus.....	23	10	10	6	6	16	10	7
Denver.....	15	8	3	8	4	7	8	2
Kansas City.....	29	10	14	4	9	14	12	7
Minneapolis.....	29	12	12	11	12	20	13	12
New York.....	23	8	16	13	15	24	15	12
Omaha.....	27	14	13	8	8	12	10	4
Philadelphia.....	23	4	15	6	8	14	10	9
Pittsburgh.....	32	15	27	20	25	23	21	17
Spokane.....	4	—	—	—	2	2	—	—
St. Louis.....	34	8	19	13	10	22	15	2
St. Paul.....	22	7	9	9	9	19	10	8
Washington.....	14	4	8	7	11	10	9	3
Average.....	23.81	8.93	13.31	9.12	10.56	16.81	12.12	7.06

Section 12.—Some reasons for the separation of growing districts and markets.

It must be remembered that even when products can be grown in a given market, agriculture is essentially a seasonal occupation; and the seasons differ in different parts of the country. One of the important results of the development of transportation facilities and of markets is that goods can now be secured in a given community when there is little or no local production. Another is that a growing section can profitably produce during the season much more than the local markets can absorb. The result is not only beneficial to both consumers and producers, but contributes in a substantial way to national economic efficiency.

A good illustration of the effect of seasonal production on a market is found in Memphis, Tenn. It is only in the summer months that the surrounding country can nearly supply the city with vegetables, and then only in the case of a few articles. In the early spring cabbages and potatoes, for example, come from Florida, and a little later from Louisiana, Alabama, and Mississippi. A month or six weeks after this they come from Tennessee and adjacent territory. As the season advances they are brought from Northern and Western States, ending with Wisconsin, New York, and Maine. The situation in Memphis is typical. There are few, if any, cases in which a market could be fully supplied by adjacent territory; and this not necessarily because production is insufficient in amount, but because it does not come at the right time.

While, however, there are many cases in which distant shipments can be explained in this way, there are others in which they can not. A representative of a large Chicago concern which specializes

in potatoes, but deals in other things as well, speaking of the peculiarity in the demand for that vegetable, tells of one case in which Washington and Virginia potatoes probably passed each other on the way to market.

A striking instance is furnished by the apple market in New York City. The position of New York State in the apple-growing industry is one of the first importance. In 1917 it produced 14,059,000 bushels.¹ This was an exceedingly poor year, the average for the five years ending with 1917 being 29,308,000 bushels. Yet even in 1917 the New York crop was greater than that of any other State except Washington, which produced 17,897,000 bushels. Washington, Oregon, and Idaho, which from this point of view may properly be grouped together and described as the Pacific Northwest, produced 23,392,000 bushels. The production for the entire country was 174,608,000 bushels.

Notwithstanding the great distance between the two places, 1,171 carloads (about 468,400 bushels) of Washington apples were unloaded in New York City in 1917. This was 13.9 per cent of the apples unloaded there. If the entire Pacific Northwest instead of the State of Washington alone be considered, the figures become 1,571 carloads, or 18.7 per cent. For New York State the corresponding figures were 3,364 carloads, or 40 per cent.² It may possibly be thought that the large shipment of apples from the Northwest was due to the fact that in 1917 it was a remarkably poor year for the apple-growing industry in New York and a number of other States, but a remarkably good one in Washington and Idaho. In 1916, however, New York's output being more than three times that of Washington, as had been the case for a number of years, the New York State Commissioner of Foods and Markets testified before a legislative committee that the New York City market was well developed for the apples of the Northwest, but not for those of its own State.

Conditions in the apple market of New York furnish but one example, though a striking one, of the shipment of agricultural products from a distance when they might be obtained from points relatively near to hand. The New York State Commissioner of Foods and Markets complains that not only in the case of apples, but in those of peaches, pears, and potatoes, the farmers just outside of New York City find that there is "discrimination" against their products, and consequently seek their markets in the South and West.

The reasons given by the New York State Commissioner of Foods and Markets for the prominence of northwestern apples in New

¹ Figures on production are from the Yearbook of the Department of Agriculture, 1917, Table 116, p. 681.

² Figures were furnished by the Bureau of Markets.

York throw a general light on the whole matter of distant shipments where relatively short shipments are possible. He attributed the situation in New York largely to the work of "speculators" who had invested their money in northwestern fruit. He explained that only the best grade was sent to market, and that the fruit was packed and crated, not by the owner himself but by men selected and qualified for the purpose, this work being done through the growers' associations. He brought out the fact that the New York State growers were not organized as were those of the Northwest, and evidently thought that if they were the results would be very different. Agents of the Federal Trade Commission who visited the Pacific Northwest found there well-developed shipping markets in which there were a large number of individual firms or organizations capable of handling great quantities of fruit. Meanwhile, New York State, which is near many of the largest consuming markets of the country, produces enormous quantities of canned and dried apples. (See above, pp. 43-44 and Chart I, following p. 44.)

It is not only in the Pacific Northwest that there are well-developed organizations for the marketing of agricultural products. The fruit and vegetable districts of California, the cantaloupe districts of Colorado, the citrus fruit districts of Florida, and a number of others seem to have the necessary machinery for the effective reaching of the markets. This machinery takes the form of large organizations, which are sometimes cooperative associations of the growers themselves, sometimes joint-stock corporations controlled by the growers, and sometimes independent business concerns.

No very positive answer can be given to the question why this marketing machinery has been developed in some of the growing districts and not in others. It is probable, however, that one very important consideration is the need. The farmer who lives a hundred miles or so from a great city can have some knowledge of the conditions there and of the dealers with whom he will come in contact. For the small grower who lives a thousand miles or more away it is much more difficult. Moreover, where the distance is great the freight rate is of more importance, and the desirability of shipping in carload lots is greater. For these and similar reasons the distant growers have a stronger motive for organizing marketing associations of their own, and if an independent organization enters the field it is likely to find it easier to establish relations with the grower.

A distant growing organization, well equipped for reaching the markets, may have a material advantage over a near-by growing organization that is poorly equipped and over the independent growers. Great distributing companies, whether cooperative or organized for profit, have representatives, either directly or through

organizations with which they are affiliated, in many markets through whom they can keep posted as to conditions. They are in a position to supervise with some care all who are acting on their behalf. Some of these organizations have conducted extensive advertising campaigns and have well-established brands. Moreover, since they handle large quantities of goods they can be regular, rather than spasmodic, in their appearance in any market. Advantages of this sort may go far to offset any disadvantage due to distance.

TYPES OF MARKETS.

Section 13.—Classification of markets.

Wholesale market centers may conveniently be divided into two main classes—shipping markets and receiving markets. The first of these are specially organized for collecting food products from the growers and sending them, in some cases after manufacture, to distant points. The second are organized for receiving large quantities of these goods from a number of shipping points and distributing them to near-by consumers or to dealers in other places. There are probably few, if any, important markets that are concerned exclusively with either of these types of dealing. Shippers are necessarily consumers and not all of the things needed can be produced locally. Most of the large receiving markets secure some portion of their supplies from the growers at near-by points. A city like Los Angeles may be an important shipping market for some things and at the same time a large receiving market for many kinds of products. Notwithstanding some difficulties of this sort the two types of markets are, in practice, sufficiently distinct to bring into a clear light the problems that must be considered in connection with each of them when any constructive regulation of the markets is contemplated.

Besides the shipping and receiving markets there are two subordinate types that are of sufficient importance to warrant special consideration in this connection. These are the auctions and what are sometimes called farmers' markets. The first of these are found only in a moderate number of the receiving markets, but in some of these they handle great quantities of produce. "Farmers' markets" are found in a very large number of places; and in many cities a strong effort is made to encourage their development.

Section 14.—Shipping markets.

Those doing business in the shipping markets are of four main classes—independent local shippers, representatives of dealers in the receiving markets, growers' associations, and branches of large corporations. Many of them are not merely dealers in the narrow sense of the term. The "packers" who prepare fresh farm products

for shipment may, perhaps, be so regarded; but at many of the shipping points there are creameries, canneries, or other manufacturing concerns. These, however, do an important part of the work of marketing, and for present purposes may be treated simply as dealers.

One of the chief problems connected with shipping markets has to do with the quality and condition of the goods. In the past disagreements on these points between shippers and receivers have often been a serious evil. This is true, to some extent, of commission dealings, but has been much more conspicuous in the case of goods sent to a distant market under an agreement for their purchase by a merchant. During the last year or two the evil of rejected shipments has been greatly reduced by Federal inspection at the receiving points. (For details as to rejected shipments, see pp. 175-178.) There are some dealers, however, who insist that there should be inspection at the shipping points as well. Where the purchaser can inspect the goods before shipment no market problem of the sort arises; but, generally speaking, only large dealers can do business in this way. In all cases in which the purchase is made f. o. b. shipping point the buyer must assume the risk of deterioration in transit. If the goods arrive in bad condition, however, the question may arise as to whether the loss occurred in transit or whether the goods at the time of shipment were as represented. The resulting misunderstandings are not only injurious to shippers and receivers, but the danger that they may occur constitutes one of the costs of doing business.

In some important shipping markets most of the business is done by a few large distributors. This is strikingly the case in the cantaloupe trade of California, Nevada, and Colorado. In the western cantaloupe markets the distributors make contracts in advance of the season with the growers, by which the latter appoint them exclusive agents, and agree to pay a commission which commonly amounts to 15 per cent. The contracts differ somewhat in different places, but in general they are much more than mere agreements in regard to marketing. The grower commonly agrees to plant a certain number of acres with seeds selected by the distributor, to purchase the seeds and certain other supplies from him, and in certain respects to conduct his business as the distributor may direct. The latter does practically all the work of marketing, the goods of different growers commonly being pooled for the purpose, and in some cases advances money to the grower. It must not be supposed that relatively small buyers are entirely absent from these markets, but they seem to be a distinctly minor factor. Sometimes cantaloupes are consigned directly by growers or growers' associations, but cantaloupes are highly perishable, and the western growing districts

are far from the large markets. Distribution must be quick and wide. Under the circumstances it is hardly surprising that the great distributors have a material advantage in the shipping markets.

While the problems presented in the marketing of cantaloupes are in some respects peculiar, conditions in many of the specialized growing districts of the South and West are decidedly favorable to large marketing organizations of one sort or another. Great quantities of products are there to be handled and must be sent to many distant markets. Under such circumstances a large concern that is constantly in touch with the different markets and has arrangements for selling in them is in a position to render services that, to many of the growers, are of real importance.

At some shipping points marketing organizations of the growers themselves occupy an important position. These are found in nearly all parts of the country, but they are especially prominent in the State of California, which, through legislative and executive action, has done much to encourage them. Generally speaking, each of these organizations confines its attention to one or two specified products, or even to that part of a product which is intended for a special purpose, such as canning. In some cases the activity of an association is, in practice, more narrowly restricted than its name or formal agreements would imply.

Whether organized on a joint-stock or a nonprofit basis, these associations commonly make contracts, in some cases running for three or even for five years with the growers. Partly as a result of these contracts certain associations have secured control of a very large proportion of the output. The California Associated Raisin Co., for example, in 1918, controlled about 88 per cent of the crop. The California Fruit Growers' Exchange, during the crop year of 1917-18, handled 76 per cent of the shipments of oranges, lemons, and grapefruit from the State, the percentage being somewhat larger that year than usual. For the same season the California Peach Growers (Inc.), according to the State Market Director of California, sold 32,000 tons out of the 40,000 tons of dried peaches produced in the State. This is 80 per cent. When contracts were first made with growers, it was provided, among other things, that they were not to go into effect until contracts had been secured covering 75 per cent of total acreage in the State of freestone orchards 4 years old and over. There are a number of other associations that control a similarly large percentage of the products in which they are specially interested.

Whether or not the cooperative societies have attempted to restrict production or to exercise any monopolistic influence on prices, control of the marketing of such a large percentage of the output naturally limits rather narrowly the opportunities for other dealers. Com-

petition between the associations and the independents for the securing of products is frequently keen. It takes the form, on the one hand, of attempts to induce all growers to become members of the associations, and, on the other, to induce them to stay outside or to break their contracts.

Section 15.—Receiving markets.

Receiving markets might be divided into two subclasses—those that are almost exclusively consuming centers and those that, in addition, serve in a substantial way as points of distribution to other places. In some branches of the food trade the distinction is of importance. In those here under consideration, however, most of the important consuming markets are to some extent distributing markets as well and, as is true in other branches of the food trade, practically every important distributing market is also a large center of consumption. Consideration of distributing markets therefore practically implies consideration of central consuming markets.

A receiving market must be organized for the handling of products of practically all kinds, whereas a shipping market is ordinarily prepared to handle on a large scale only those that are produced locally in commercial quantities; and these, in some cases, are very few. The wholesale dealer in a receiving market, however, generally confines his activity to one or two lines of similar commodities, such as fresh fruit and vegetables, dairy and poultry products, or groceries, though there are fairly numerous exceptions. (See above, pp. 27–30.) Generally speaking, he is more specialized in this sense than is the typical dealer in a shipping market, though greater specialization than appears in the case of some of the great shipping organizations would be practically impossible.

Nearly all types of dealers are found in a large receiving market. Some shipping organizations and food-products manufacturers maintain offices or salaried representatives in certain large cities. In some lines, especially in the wholesale grocery trade, traveling salesmen are employed. Large shipments are often handled by brokers and in many cases relations between shippers and receivers are sufficiently close to permit direct dealings, based on mail or telegraph orders. Small shipments are sometimes sent to commission men and sometimes to merchants. Near-by growers sometimes bring their products to the city and sell them to wholesalers, to retailers, or even to consumers. On the other hand, certain city dealers send representatives to the country, often to distant points, to solicit shipments or even to make purchases. Some dealers sell to those in other markets, large or small. Others do a business that is mainly local, as regards both buying and selling. In fact, nearly all forms of dealing that are legitimate, and occasionally some that are not, are to be found in the receiving markets.

There are some food products the marketing of which is comparatively simple. This is true, generally speaking, of those that have passed through some process of manufacture, canned fruits and vegetables being a good example. Commodities of this sort are usually sold by the manufacturer, either directly or through a broker. Normally they go next to the retail grocer and then to the consumer. Goods of this sort are handled to a considerable extent by the branch houses of the big meat-packing companies (see above, p. 28), but from this point of view the branch houses are simply doing, among other things, a wholesale grocery business.

The marketing system is much more complex in the case of most of the highly perishable goods. This is strikingly true of those that reach the consumer in substantially the form in which they leave the farm. If, indeed, a particular shipment be followed through the receiving market the process may not seem to be very complex, though in many cases the number of steps will be greater than it is in the case of groceries. The complexity lies in the fact that there are many ways in which products may be handled and one shipment is dealt with in one way and one in another. The result is that it is practically impossible to describe any way in which goods are normally handled.

The complexity of the marketing system, however, is far from being an irrational thing that could easily be simplified. In a large measure it is due to the great variety of the conditions of original production. If all farm products consumed at a given place were grown by small near-by farmers, the marketing system would probably be fairly simple, but the needs of consumers would not be well served. If the farmers were all specialized producers, far from the markets, and organized, as are many of those in the far West, into great cooperative associations, the marketing system would be somewhat more complex but still easily understood. In fact, however, these are but two extreme types. Farming is a very great industry, but it is one in which production is generally on a small scale. Farmers are numerous and differ greatly in location with reference to the markets and in degree of specialization. The industry is a seasonal one, and a given market must secure most of its supplies now from one place and now from another, a circumstance which is not very favorable to the establishment of permanent business relations.

The size of a receiving market as a consuming center and the extent to which it is used as a distributing point naturally have much to do with the character of its organization. In a city like Chicago the car-lot business, both into the city and out of it, is so large that some dealers may devote themselves entirely to it. This would hardly be true of a smaller city, where the car-lot business is

relatively small and brokers sometimes arrange for "pool cars," the contents of which are divided among several wholesale dealers, there being few who have sufficient business to warrant their taking an entire carload. In the same way the size of the market may justify the existence of the large wholesaler as distinguished from the jobber, especially if there are within its field as a distributing point a number of cities large enough to warrant some wholesale business, but not large enough to justify the establishment of a big concern with far-reaching connections and a heavy investment of capital.

Simplicity of marketing organization, advantageous as it is in many ways, is one of the conditions favorable to the concentration of the business into comparatively few hands. Where there are many different types of dealers and many methods of handling goods, it is much more difficult to secure control of the marketing machinery, and though it is possible, as far as any particular method is concerned, the power of a combination in any one of them is decidedly limited.

Complexity of marketing organization, however, while not specially favorable to combination, tends to make dishonest dealings hard to detect and sometimes hard to define. Illegitimate practices are ordinarily injurious to the persons with whom business is done, and at the same time are unfair trade practices. Reference has already been made to the suspicion under which the commission business suffers, and to the admission of dealers that this suspicion is not wholly without foundation. (See above, p. 40.) Where business has been done with merchants, the problem of rejected shipments has been a serious one, and the great majority of the dealers who expressed any opinion to the Federal Trade Commission or its agents are in favor of a system of national inspection. Mere inspection of products, however, is not sufficient to protect the dealer from various forms of unfair dealings. It would hardly protect the shipper, for example, from false returns or inaccurate reports of marketing conditions.

Section 16.—Auction markets.

In more than a dozen of the receiving markets of the country there are auction companies through which large quantities of fresh fruit and, to a relatively unimportant extent, other kinds of produce, are sold. In most of these cities there is only one such company. In New York there are three, but these are united by a contract fixing commissions and providing for the pooling of profits. Most of the fruit thus handled is received in carload lots from distant shippers, though the latter are in some cases large organizations handling the fruit of a considerable number of different growers. The services of the auction companies are therefore available to many small

farmers as well as to large ones. Ordinarily the fruit is not consigned directly to the auction companies, but is sent to brokers, to salaried representatives of the shippers, or to dealers of some other sort. One reason for this seems to be that the auction companies prefer to have someone on the ground with whom any disagreements can be considered.

The auction rooms and warehouses are commonly located on railroad property, and the goods are unloaded directly at a point where they can readily be inspected by possible buyers. The goods are divided into lots or "lines," catalogued, and sold by the auctioneer to the highest bidder. In general, the buyers include both large and small dealers as well as representatives of the restaurants, though the relative importance of these differs in different places. Ordinarily purchases may be made on credit, but the auction company pays the seller within 24 hours, advancing the money and assuming the responsibility for its collection. For its services the auction company charges the seller a commission which is usually 2 per cent, though in one or two cities it is as low as $1\frac{1}{2}$ per cent, and in a few cases it gets as high as 5 per cent. In some markets there is also collected from the buyer a "terminal charge," which is usually a flat rate of 5 cents or less per package. In one or two places there is nothing called a terminal charge, but a "delivery charge" which is reduced, but not eliminated, if the buyer carts away the goods himself. In at least one case there is a delivery charge with no chance for the buyer to escape, even in part, by doing his own carting. This is not necessarily an unreasonable requirement, since under certain circumstances serious congestion can be avoided only by an organized system of deliveries.

Quotations, based on auction prices, are used to a certain extent as an indication of market conditions. The sales are public, a record is easily obtained, and, at least in some of the auction markets, a catalogue showing the prices received for each lot of goods, is printed by the auction company for the benefit of the sellers. In some cities these quotations are not without their influence on the prices paid at private sale. The New York Fruit Exchange, which is not itself an auction company, has a committee which makes up an official auction report, which is supposed to be used as basis for quoting New York prices to distant customers. In so far as auction prices are the result of open competitive bidding and the volume of sales is large, the quotations probably indicate fairly well the conditions prevailing in the market. Manipulation for the purpose of affecting the quotations is not impossible and is said to have been practiced in some instances. Cases of the sort, however, are probably exceptional.

One of the chief advantages claimed for the auction method is the free play of demand and supply that public sale makes possible. As a result, the shipper is assured of as high a price as the conditions warrant. Advocates of the auction method claim that the thing that counts is the quality of the goods rather than the quantity offered for sale or the ability of the dealer. All grades can therefore be sold for full value. If there is a glut in the market peddlers and pushcart men buy heavily in order to take advantage of the low price, and by pushing the sales prevent the price from falling as low as would otherwise be the case. The auction market, moreover, is a quick one. After the sale opens there is no long wait for buyers to appear. This is of special importance in the case of highly perishable goods. It is further contended that the cost of selling at auction is low, and it is pointed out that one auctioneer can do the work of many private salesmen. Finally, the publicity that attends auction sales furnishes some assurance of fair dealing.

The advantages of the auctions, however, must not be exaggerated. Under proper conditions demand and supply may work smoothly at private sale. At the auction they represent conditions at a particular moment of time. Neither party can "shop around." The would-be buyer must purchase the goods when they are offered or not at all; and the seller must accept the best price then tendered, subject, in some cases, to his right to withdraw the goods from sale. To permit a seller to bid on his own goods in case he is not satisfied with the prices offered by others, as is sometimes done, is to open the door to a rather bad form of price manipulation. Again, it is sometimes said that those whose goods are sold first in the auction have an advantage over those whose goods are sold later, since the buyers after securing enough to satisfy their needs, leave the market and the subsequent buying competition is reduced. In the case of small shipments the economy of the auction is at least highly doubtful, since the goods can not be directly consigned to it, and they might be sent to a commission man or to a merchant of the type that would otherwise buy them at public sale. While it is claimed that agricultural products of practically all sorts can be sold at auction there is no doubt that it is a material advantage to have the goods come in carload lots properly packed in standardized packages. As a matter of fact, it is chiefly fruits so shipped and so packed that are handled at public sale.

While there is no reason to doubt that the auction method has important advantages, especially for large shippers located at a considerable distance from the market, there are certain alleged abuses, which are now under investigation by the Federal Trade Commission.

Other abuses, connected with the attempted manipulation of prices by individual dealers, seem to have been greatly reduced, if not eliminated, by the regulations of the Food Administration and, so far as has been learned, there is little trouble of the sort at the present time. In the absence of regulation, however, similar abuses are not unlikely to arise in the future. In a number of cities the auction companies are controlled by dealers who make use of them. This is not necessarily an abuse and may be entirely justified, yet it furnishes an additional reason for regulation, especially when it is remembered that in many cities there is only one auction company.

Section 17.—Farmers' markets.

A "farmers' market" is a place primarily devoted to the sale of farm products by the growers. As the term is often used, it is limited to those in which sales are made chiefly, if not exclusively, to consumers. Such usage, however, is hardly justified. There are some farmers' markets that are almost entirely devoted to the wholesale trade; and in many of the others a considerable amount of wholesale business is done. Markets in which a large number of sellers who are not farmers are present are not strictly farmers' markets, but they constitute such a large proportion of those in which the farmers do business that they may well be considered in this connection.

Retailing by the farmer implies, so far as it goes, the elimination of the middleman and of the wholesale trade. While, however, there are successful farmers' retail markets in a number of places, and while they have a real field of usefulness, it is evident that this field is limited. Enough has already been said to show that even when a city is located near a producing section a considerable part of its supplies must be brought from a distance. (See above, pp. 48-49.) What is of more significance is the fact that even when such markets are available near-by farmers frequently sell to retailers or even to wholesalers, sometimes through the farmers' markets; and in a few cases markets of this sort are known as wholesale markets.

It is commonly assumed that the chief obstacle in the way of a greater development of farmers' retail markets is the unwillingness of the consumers to patronize them. This may be one of the obstacles, but it is probably no more serious than is the unwillingness of the grower himself to make use of them. The latter has his farm to care for, and unless it be a very small one it is likely to require a great deal of his time and attention, especially as the marketing season necessarily coincides with the harvesting season. The spread between the price that the farmer can get from the middleman and the price that the consumer must pay may look very attractive, but

At the farmer must do most of the work of the middleman. The farmers, especially the smaller ones, are in a position where they can well spare the time, and the establishment of a farmers' market may be of advantage to them and to the consumers. Upon the whole, however, it is not surprising to find that many farmers prefer to sell to the middleman and that in many of the markets products are sold by others than the growers.

Farmers' wholesale markets may be divided into two classes—those in which products are disposed of to middlemen for local consumption and those in which they are turned over to shippers. In neither case is it necessarily implied that the farmer is doing any part of the work of the middleman, since the dealers may be practically of the same sort as would handle his goods in any event. The functions of such a market are often little more than to bring together in one place a number of farmers and middlemen, thus making it somewhat easier for them to deal personally with each other and giving freer play to competition than it would otherwise have. This is particularly likely to be the case in the shipping markets where a large part of the supplies are obtained from near-by farmers. Where, as happens in some of the consuming markets, the farmer deals with the retailer, the number of middlemen is reduced. This may result in a real saving and not in a mere transfer of the work of the wholesaler to the farmer or the retailer. The quantities in which the farmer wishes to sell and those in which the retailer can conveniently buy may be so nearly the same that the most important function of the wholesaler would be merely to establish the connection between the two. This function existence of the market may render unnecessary.

While the farmers' wholesale market, in some cases, serves a very useful purpose, its field, like that of the farmers' retail market, is limited. One can successfully be maintained only in or very near to a producing district. In practically all of the important consuming centers, even when they satisfy this requirement, a large part of the supplies must be brought from a distance. In the producing sections, many of the farmers have more or less permanent connections with local dealers, or with those in the receiving markets. In a large number of cases, particularly in the specialized producing districts, a farmer will enter into a contract with a cooperative or independent organization for the marketing of his entire crop. Even if the contract has a clause excepting local sales from its provisions, the farmer may not take advantage of the fact, unless the incentive is strong. The case would be somewhat different if he had to make arrangements from time to time for the disposal of his goods.

WHOLESALE MARKETING OF FOOD.

MARKET FACILITIES AND EQUIPMENT.

Section 18.—Market facilities and market conditions.

To serve producers and consumers well a market must be properly equipped for handling goods in a cleanly, expeditious, and inexpensive manner. The facilities needed are those for bringing goods into the market and for sending them out of it, for the actual work of buying and selling, for storing the goods from the time they are received till the time they are delivered, and for transferring them from one part of the market to another. In other words, the equipment of a good market consists of terminals, stores, storage, storage warehouses, and cartage facilities. In so far as any of these is ill-adapted to its purpose, badly managed, or lacking in proper coordination to the others, time and effort must be spent in overcoming the resulting difficulties. This almost inevitably means both an increased burden to consumers and some discouragement to producers. Loss of food and its deterioration and the conditions causing them are discussed in Chapter III.

There are cities in which conditions are good as regards one or more of these kinds of facilities, but very few that are even approximately well equipped with all of them. This is most clearly true of the marketing of fresh fruits and vegetables and of butter and eggs. The situation is especially bad in some of the largest cities, New York and Chicago furnishing striking examples of the lack of proper arrangements for efficient marketing. There is probably no important city in this country in which the facilities are better than in Los Angeles. Even here, they leave something to be desired, but the Los Angeles market may, in many respects, serve as a model for improvements contemplated elsewhere. (See Exhibits I and II for a presentation of the marketing conditions in these cities.)

Section 19.—Stores.

In most cities of any importance there is a pretty sharply defined produce district in which the greater part of the wholesale dealers in fresh fruits and vegetables and usually also most of the dealers in butter and eggs are located. In a few instances there are several such districts, but one stands out above all the rest as the real center of the business. There are some cities, however, in which the dealers are more or less scattered. These are mostly small or moderate-sized places, and there are often special circumstances that explain the failure of the dealers to group themselves together. It must be remembered, moreover, that in a small city the dealers may be scattered through a large part of the business section and still be not very far from each other.

the buildings in the produce district are in many cities structures erected decades ago and practically unchanged by the introduction of modern improvements. The needs of the business do not call for very elaborate equipment. The goods must, for the most part, be handled quickly, and a large clean space in which they can be exposed for sale and at the same time readily protected from the weather, from theft, and from unnecessary handling, is the main thing required. Cold-storage facilities on the premises are sometimes desirable, but these can ordinarily be provided more economically in larger units than would suffice to satisfy the needs of most dealers. A cold-storage warehouse near at hand would in many cases be the most satisfactory arrangement. Some space for dry storage is needed, but the amount is ordinarily not very large, because the highly perishable character of most of the goods precludes holding them in this way for any considerable length of time. High buildings are not necessary, or even desirable, for the goods are ordinarily displayed only on the first floor and on the sidewalk.

Unfortunately even these relatively modest requirements are very commonly unsatisfied. The resulting losses and wastes will be separately considered in the following chapter. Here it is sufficient merely to point out some of the shortcomings. The buildings are sometimes insanitary, and of such a character as to constitute a serious fire hazard. The main produce district in some cities doing a very large business—notably in Chicago—covers a surprisingly small area and, notwithstanding the fact that a considerable number of sales are made in the freight yards or at the docks, the space available is decidedly inadequate. The stores are small and in close proximity to each other, and the streets were never designed for the amount of traffic that passes through them. The resulting congestion is a source of serious loss. (See Chap. III, sec. 14, p. 143.)

Besides these evils, the produce district is very often badly located. It is just where it was many years ago. It is partly because the city has developed around it that it is difficult to enlarge the district so as to handle the increased volume of business that the growth of the city has made necessary. Most of the products handled come by rail or water, but the terminals are commonly some distance from the district and the goods must be carted to the stores as well as away from them. This is directly expensive and often a cause of delay and deterioration. Where there are a number of scattered terminals the remedy must, of course, be applied to them as well as to the produce district.

It may be asked why, if the evils of the present situation are so great, the men in the business do not themselves take steps to provide a remedy. Competition, it may be said, will give an advantage to the concern that properly equips itself. The difficulty is that the dealers

find it practically necessary to have their places of business in the district, and they are limited by the possibilities that it affords. In so far as an improvement would benefit all alike, the motive for bringing it about is not nearly as strong as it is where a concern that is particularly active would secure a competitive advantage for itself. Collective action is needed if the dealers themselves are to provide a remedy, and where the number of those interested is large this is difficult to secure. In Chicago, where conditions are unusually bad, there are many dealers who agree that the produce district should be moved from South Water Street, but it seems impossible even to secure an agreement on any particular site.

The building of a proper market in practically any city would be a costly undertaking. The dealers are not often large concerns with the necessary capital available for investment in buildings. Ordinarily they rent the stores in which they do business. Nevertheless, there are instances in which outside parties have been ready to build a market. These are usually corporations, such as the railroads, which have an interest in the matter other than the rent they hope to receive. It is in this way that the wholesale market in Los Angeles was secured. In Atlanta three railways jointly built a market in which most of the produce dealers are now located. In Chicago, however, several projects of the sort have been put forward, but have not been carried into effect. In some cases opposition came from the dealers, who feared the influences back of a particular project. In most cases there was opposition also from competitors of those who wished to build the market. It should be remembered that where a railroad can make the produce district a part of its own terminal facilities it secures a distinct competitive advantage.

Even if it be regarded as wholly unobjectionable for railroads, or other similarly interested corporations, to own the market, it is not likely that much can be accomplished in this way. Reasonably satisfactory market facilities seem to have been so provided in very few places. Little or nothing has been accomplished in Chicago, where the need is perhaps greater than it is anywhere else. So far as has been learned there are only a small number of places in which anything of the sort has been attempted. Experience does not warrant serious consideration of the idea that satisfactory markets will be provided as profit-making investments by corporations not otherwise interested.

So far as their places of business are concerned, the problems presented by the wholesale grocers are far less serious than those presented by the dealers in fresh farm products. While wholesale grocery stores are usually located in the business section of the city, there is ordinarily no wholesale grocery district in as rigid a sense

is a produce district. In some cases a number of grocers grouped together in or near the produce district, but, generally speaking, they are somewhat more widely scattered than are the dealers in the perishable goods that have gone through no process of manufacture, and they are more often located on or very near to the railroad. The buildings they occupy are, as a rule, decidedly superior to those in the produce district. The business is ordinarily conducted on a larger scale, with more capital and with better equipment. The wholesale grocers would gain something by an improvement in market conditions, especially with reference to terminals, but as far as their places of business are concerned they seem to need but little outside help. This does not mean, of course, that present facilities are ideal, but that for their improvement much reliance may be placed on competition provided only that it is kept fair in character.

Section 20.—Terminals.

There are few cities of even moderate size that have anything approaching in character a union freight terminal. Usually there are several railroads; and food products are unloaded from them at different points, which are, in many instances, at a considerable distance from each other. In a large number of cities goods are received by water as well as by rail, and in some of these there are many docks. Products brought in by truck or wagon are sometimes taken to a farmers' wholesale market, which practically constitutes another terminal, and from this point they are carted to the main produce district.

The situation in Chicago is particularly bad. There are approximately 25 railroad freight terminals in the city. A considerable number of these are grouped together a mile or so from the produce district. The terminals, however, are distinct from each other, and a dealer receiving shipments over a number of different railroads must send for them to as many different terminals. For about five months in the year fruits and vegetables are received by water from Michigan and Wisconsin and must be hauled by teams from the docks to the markets. For about eight months in the year farmers and truck gardeners within a radius of 25 miles bring their products to the city. Of these some are sold at the Randolph Street Market and are later carted to South Water Street.

In New York there are 9 railroads and 45 steamship lines that are of special importance in connection with the delivery of food supplies. Of the railroads only one—the New York Central—reaches the Manhattan market district on its own tracks. The others have receiving piers to which they bring the loaded cars on floats. Each of the transportation companies tries to secure favorable terminal

facilities for itself and to retain the exclusive use of them. The result is a large number of scattered terminals. To some extent these are specialized as regards the kinds of products handled. The space, however, is inadequate. There is much congestion, and considerable quantities of goods are spoiled because there are no satisfactory facilities for taking care of them. The amount of food products brought in by wagon, while large, is but a small part of the total.

While the cases of New York and Chicago are, perhaps, somewhat extreme, they are so largely because of the importance of these cities as market centers, and the number of transportation companies serving them. In a few places two or more railroads have united to form a joint terminal, but this rarely, if ever, includes all the railroads serving that city. In some cases the terminals are near together, but often they are widely scattered. Even in Atlanta, where three of the railroads have united to build a produce market (see above, p. 63) and have a common freight yard adjoining it, there are six other railroads which between them have four terminals located from five to eight blocks from the produce district.

The lack of a union freight terminal does not necessarily mean that all the cars must be unloaded at the terminals belonging to the particular roads over which they arrive. Even if the market were located at the terminal of a particular railroad, substantial advantages could be secured, especially if arrangements were made by which cars reaching the city over other railroads could be unloaded there. This is the case as regards carload lots at Los Angeles. The market is located on the tracks of the Pacific Electric Railway Co., a subsidiary of the Southern Pacific Co., which covers an extensive territory in southern California. The different railways have access to this market, subject, in some cases, to the payment of a switching charge. No arrangements have, as yet, been made for handling less-than-carload lots, and these must be carted from the various terminals.

Location on the tracks gives some advantages, even where there is no terminal market of the sort that has just been considered, especially if the railroad in question is an independent belt line having good connections with all the other roads. The advantages are somewhat less when the tracks belong to a particular railroad company; but the cars coming over its lines can be placed at the store, and those coming over the lines of other companies are often accorded the same privilege on payment of a switching charge. The connections, however, are not as likely to be good as in the case of a belt line organized for the purpose of aiding each railroad to reach all parts of the city. The advantages of location on the tracks, however, while ordinarily substantial, are not always as great as might

be supposed. Switching charges are sometimes high and there is often serious delay in the placing of the cars. Largely as a result of such difficulties, goods are sometimes taken from the terminals by wagons, even when the cars might be switched directly to the stores. Less-than-carload lots must usually be carted, sometimes for considerable distances.

As has already been pointed out (see above, p. 57), food products are sometimes sold at the terminals instead of in the produce district. While this is true in a number of cities, it is especially conspicuous in Pittsburgh, where there are many dealers who have no stores of their own, but make all deliveries direct from the car. A commission appointed by Mayor Gaynor to investigate marketing conditions in New York City reported in 1913 that where possible marketing was conducted at the piers and terminals, though facilities were by no means adequate for the purpose.

In a sense terminals used in this way are terminal markets; but the facilities available are so few and so crude that the New York commission was amply justified in referring to markets of the sort as "makeshifts." The congestion in New York makes conditions particularly bad, but in other respects the facilities do not seem to be inferior to those found elsewhere. There can be no doubt, however, that some of the chief advantages derived are among those that would be gained in well-developed terminal markets.

Not only are the terminals in nearly all cases unsuited for the transaction of mercantile business, but are often inadequate for the loading and unloading of perishable goods and for caring for them during the time they must remain in the care of the transportation companies. The congestion of trucks and wagons seeking to receive or deliver goods in a number of important cities is a serious cause of delay. In a few cases the terminals are not large enough to handle properly all the cars that arrive. In the absence of these difficulties, goods received in carload lots can ordinarily be transferred directly from the cars to wagons or trucks and taken to the store of a dealer or to the warehouse, though in very cold or warm weather measures should be taken for the protection of the goods, and this is not always done. Less-than-carload lots must ordinarily remain at the terminal for some time after the car has been opened, and there is often no place in which they can receive adequate protection.

The question of satisfactory terminals is, in a large measure, bound up with that of other market facilities. Adequate arrangements for the loading and unloading of cars might seem, at first glance, to be a purely terminal question, yet the extent to which the use of the cars is permitted for storage and for places of business is an important factor in determining how large a place is needed.

Perishable goods should be unloaded directly into suitable warehouses, at least when weather conditions are extreme. This means that a part, at least, of the storage facilities in a given city should be located at the terminals. To have them both there and elsewhere involves a measure of duplication. Congestion of trucks and wagons might be relieved by having very large terminals—an expensive matter where land is valuable—or by having a great terminal market, thus reducing the amount of trucking to be done. The latter method though, perhaps, increasing rather than reducing the amount of land needed at the terminals, would include in the enlarged area the market as well as the terminal in the narrow sense of the term. Even if the total area occupied were no less than when the market and the terminal were in separate locations, the evil of congested traffic would be greatly reduced, and incidentally a large part of the expense of cartage would be eliminated. Delivery from the stores to other parts of the city would still be necessary, but there is no reason to suppose that this part of the problem would be any more difficult than it is now. Indeed, the problems of delivery would be reduced, for it would no longer be necessary to cart goods from the stores back to the terminals, as is often necessary when goods are sold to out-of-town points.

Section 21.—Storage.

Since the original production of most foodstuffs can not take place at the times and in the quantities that would best suit the desires of consumers, facilities for storage under proper conditions are necessary if goods are to be received as they become ready for the market and held until the consumers most want them. For some things little more is needed than a clean, dry storeroom, with no other arrangements for artificial heating or cooling than are ordinarily found in a building in which business is done. This is true, generally speaking, of canned goods, cereals, and dried foods of various sorts. Most fresh farm products, however, can be kept for any considerable period of time only if the temperature and humidity are carefully regulated. The conditions needed for some commodities differ materially from those needed for others, and to properly care for all a number of different storerooms must be provided. Sweet potatoes, for example, after being properly “cured” should be kept at a temperature of 50 to 55° F. In the case of butter, the best results can be obtained if the temperature is 2° or lower. For many things it should be in the neighborhood of the freezing point of water.

Apart from certain abuses, the use of storage is beneficial to both producers and consumers. The production of eggs, for example, is at a maximum during the spring and at a minimum during the winter, the difference between the two being very great. By the use of cold

storage large supplies can be maintained during the winter at prices much lower than would otherwise be possible. Whether prices need be materially higher during the period of large production is at least doubtful. From the point of view of the poultry farmer the chief advantage of cold storage is the greater quantity of eggs that he can sell at moderately remunerative prices, rather than a large increase in the price at which he can sell a lesser quantity. In short, the possibility of storage stimulates production through its tendency toward a narrower price range and a steadier demand. What is true of eggs is true, in some degree, of most farm products, though there are many that can not, at least without special preparation such as canning or drying, be stored for as long a period as intervenes between seasons of production.

While the advantage of storage in equalizing supplies and prices between different seasons may be admitted, it is sometimes questioned whether the same principles apply in the case of goods that are stored for only a few weeks in order to get the advantage of a higher price. The vital consideration in the former case, however, is not that goods are stored from season to season, but that they are stored from a time of relative plenty, and therefore of low prices, to a time of relative scarcity, and therefore of high prices. Even from day to day there may be considerable fluctuations in the conditions governing demand and supply. It is obviously disadvantageous to any producer to be forced to sell his goods in time of glut, and the advantage to consumers is very likely to be offset by the higher prices that will prevail later. The danger of having to sell on a glutted market must be reckoned among the costs of production. Anything that will reduce the danger may be expected to encourage production and, under free competition, to benefit consumers as well as farmers.

Since storage implies the making of provision for the unknown future, the use of storage is necessarily speculative. This does not, of course, condemn it. Other things being equal, prices are lower in the time of plenty than in the time of scarcity, and if storage is used legitimately it can ordinarily be profitable to the speculator only on condition that he render a real service.

In some cases the speculator can affect prices favorably to himself by advertising, by the spreading of false reports, or by other means that act on the desires or beliefs of those with whom he does business. Some of these are legitimate and some are not, but, generally speaking, they are available to dealers of many kinds, and the problem is not primarily one of the abuse of storage. Something would be gained by publicity in regard to the amount of goods in storage, but the chief remedy for illegitimate methods of this sort must be

found in the regulation of business dealings rather than of storage as such.

One of the greatest evils connected with storage is the spoiling of goods. Few foodstuffs are improved by age, and most of them, even under favorable conditions, suffer some deterioration. Where, however, storage is intelligently used for the purpose of saving goods from a time of less to a time of greater need, there is generally a net advantage—often a very large one—in its favor. Excessive deterioration results from the putting in storage of goods that are not in a condition to stand it, from the failure to take proper care of the storeroom, or from leaving the goods there for too long a time.

Under such circumstances the loss may be great enough to more than offset any advantage that could be derived from storage, and in some cases the goods are completely ruined. The evil is due, not to the principle of storage, but, barring some cases of special misfortune, to its use for an improper purpose or to incompetence.

It is clear that under certain circumstances it may be more profitable to the dealer to allow some of the goods to spoil than to sell them. If, for example, there are 5,000 boxes of fruit that can be sold at \$1 a box, the total amount that can be secured from selling them all, is \$5,000. If, however, 4,500 boxes could be sold at \$1.15 each, the total receipts would be \$5,175. The amount received in the second case is \$175 greater than the amount received in the first, notwithstanding the loss of fruit that might have been sold for \$500. It will be noticed that it makes no difference what was paid for the fruit in the first place. The \$175 is added to the profits that would otherwise be made, or is, perhaps, deducted from a loss.

It is only under certain conditions that there is an adequate motive for allowing a part of the goods available to spoil in order to raise the price of the remainder. Under conditions of competition a concern would get only a part of the benefit resulting from the spoiling of its own goods and rarely, if ever, would this be large enough to compensate for the loss. Even a monopoly could make a net gain only if the percentage by which the price was increased were greater than the percentage of goods spoiled. It must be greater because the increased profit is made on only a part of the goods, whereas the loss of the same per cent is on the total. The amount by which it must be greater increases rapidly as the percentage of goods spoiled is increased.

It may seem, at first glance, that an unscrupulous commission man could well afford to allow some of the goods consigned to him to spoil in order to increase the price of the remainder. As has just been pointed out, however, the price paid for the goods does not enter into the possibility of making a profit in this way. The loss of the com-

mission man would, indeed, be less than the loss to a merchant, but so would the corresponding gain.

If, indeed, a dealer did business on a merchandise as well as on a commission basis he would gain the entire increase in profit on his own goods, but would lose only his commission on the consigned goods spoiled. Even so, however, under competitive conditions the influence that any one dealer could exert on the price in this way, save under very extraordinary circumstances, would be so small that his loss would exceed his gain. The larger the share of the business controlled by any one dealer—that is, the closer conditions of monopoly were approached—the sooner would the point be reached where such destruction would be profitable. He would have to take account, however, of the fact that dissatisfaction on the part of consignors might lead to the loss of monopoly power and of opportunities for legitimate as well as for illegitimate business in the future.

The principles that have just been considered apply with equal force whether or not storage is involved. The use of storage, however, tends to render the facts less obvious. It might, therefore, be used to conceal willful destruction or the willful character of such destruction, but it is probable that cases in which it is so used are exceptional. What is probably of much more importance is the fact that the spoiling of goods may take place when there is no deliberate attempt to secure a profit in this way. The dealer may put on his goods a price that he regards as reasonable, sell what he can at that price and store the rest. If the event proves that the goods thus stored can be sold at a higher price plus all the costs of storage, it generally means that he has saved goods from a time of less to a time of greater need and that the price originally set was warranted by the conditions. Under full, fair, and intelligent competition this is normally what will happen. Under conditions of unregulated monopoly, however, it may be profitable to set a high price in the first place, to draw out of storage from time to time such goods as can be sold at a high price, and finally to throw the rest away because they are spoiled. It should be remembered that competition is rarely perfect, that the temptation to store in the hope of a better market what can not be sold at a satisfactory price is insidious, and that as a result perishable products may perhaps without deliberate intention be left in storage for too long a time. The unwarranted spoiling of goods may therefore take place even where no dealer has any great degree of monopoly power.

Competition tends to eliminate incompetency, but the process may be slow and costly. This is especially likely to be the case when the business is easily entered by those who are not qualified to make a success of it or when the equipment needed requires the investment of a larger amount of capital and the number of competitors is

small. The first of these conditions is satisfied in the case of dealers in perishable goods. One who is incompetent may be driven out of business fairly quick, but he is soon replaced by another, and the consequence is that there are a number of incompetent men in the business all the time. The second condition is generally satisfied in the case of cold storage, though to a much less extent in that of other kinds. A properly equipped cold-storage plant requires a considerable investment. In many cities there are only one or two independent companies that are generally available to the dealers. If under such circumstances a warehouse is badly run, the losses to dealers and to the community generally, as well as to the owners, may be very great before a better management is secured. In either case unregulated competition is hardly a satisfactory remedy for incompetency.

While ordinary dry storage is used to some extent, and while artificial heating is sometimes necessary, the chief storage problems of the dealers in fresh farm products have to do with cold storage. This is partly due to the fact that, except for the branch houses of the meat-packing companies, comparatively few of the dealers have the necessary facilities of their own. They are therefore dependent upon the public cold-storage warehouses. Under this head should be included in some cases those belonging to the meat-packing companies or to other dealers. Even if the rates charged were reasonable, the ownership of a storage warehouse would seem to give a decided advantage, particularly at times when there were not sufficient facilities for all. This would be true even if the goods for which storage was sought were not competitive in character with those handled by the owner of the warehouse.

In so far as the use of cold storage is necessary for the successful conduct of business but the conditions are such that, even in the absence of combinations and conspiracies in restraint of trade, no substantial competition will obtain in providing it, there is much ground for regarding the public cold-storage warehouses as a public utility whose services must be available to all on equal terms. There are special reasons for so regarding it if it be desired to keep the business of dealing in perishable food products, especially in the case of butter and eggs, one in which there are a large number of competing dealers.

During the summer of 1918 there was much complaint on the part of the dealers in many cities that local cold-storage facilities were inadequate. In a few cases, including New York and Chicago, this was attributed mainly to the abnormal conditions brought on by the war. There are a number of cities, including some which though not of the first rank are of considerable importance, in which cold-storage facilities seem to be ordinarily inadequate, if not entirely

lacking. Examination of a considerable number of cities shows that if those in which the difficulties are due to the war were grouped with those having adequate facilities, this combined group would be probably somewhat larger in numbers than the group whose facilities are inadequate. It includes, moreover, the cities of New York and Chicago.

In Seattle there are large publicly owned warehouses. These are intended primarily for the business of the port, but are available to the dealers. Privately owned facilities, however, are good, and are more conveniently located than those under the control of the Port Commission. The fact that the latter are available, however, is said to have had beneficial effect on the local situation.

To render the best service, cold-storage facilities must not only be adequate in character and under good management, but they must be well located. As was pointed out in the discussion of terminals, many perishable goods should be unloaded directly into cold storage, especially when weather conditions are extreme. Unless they can be sold there, however, they must ordinarily be carted to the produce district. If they could be sold very soon after their arrival, the problem arising would be one of the location of the district rather than that of the warehouse. In some cases, however, goods can not be sold promptly, and it is desirable to put them into cold storage. This means that they must be taken away from the place of sale and brought back later. It is therefore important that cold-storage facilities be convenient to the district as well as to the terminals.

In comparatively few cities is there much complaint regarding the location of cold-storage facilities with reference to the produce district. Naturally those who establish a warehouse to take care of the business of the district will wish to be conveniently placed with reference to it. In a few cases, even when the facilities are good, they are so located that they can be used only at a considerable expense, and largely for that reason they are not as much used as they should be. The situation in Los Angeles and in Atlanta is particularly good.

One of the results of inadequate or badly located storage facilities is the use of refrigerator cars for storage purposes. This may involve the payment of demurrage, but even so, it may be justified from the point of view of the dealer by the possibility of saving the goods. It must be remembered that while high prices tend to reduce consumption and so to lessen the amount of business that can be done, they do not for that reason necessarily lower profits. A dealer has a strong motive for reducing expenses when he alone will benefit thereby, but a much weaker motive when the benefit must be

shared with others. For this reason, while the absence of proper cold-storage facilities may mean a heavy loss for society at large, it does not necessarily mean a corresponding loss for the dealers. This applies with special force to the use of refrigerator cars for storage. Delay in unloading until demurrage begins to accrue costs the dealer nothing, but it falls on the railroads and, assuming a proper adjustment of rates, through them on all the users of railroads. The payment of demurrage places the individual dealer at no disadvantage if the others find it necessary to make similar payments, but from the point of view of society the use of refrigerator cars as storage places is ordinarily costly.

Section 22.—Cartage.

From what has already been said in regard to the multiplicity of terminals and the location of dealers' places of business and of cold-storage facilities, it is evident that under present conditions a large amount of cartage is necessary. In some cases the dealers are equipped to do the work themselves, but very commonly it is done by a separate set of teamsters and cartage companies. There are, of course, dealers who have trucks or wagons of their own but are not prepared to do all of their own cartage, particularly at times when the volume of business is larger than usual. In most cities, therefore, at least a part of the business of cartage is organized separately from that of the dealers.

This fact is in some respects unfavorable to the development of the most economical arrangements for marketing. To most of the dealers a reduction in the amount of cartage necessary, and in its attendant expense, would be welcome, whether they did the work themselves or paid some one else to do it for them. A dealer might, of course, oppose a change that would mean the loss of a competitive advantage to him, even though it were otherwise desirable; but there do not seem to be many important advantages of this sort in connection with cartage, at least as far as the dealers in fresh farm products are concerned. The motive for improvement, however, is not as strong as it would be if some of the dealers could thereby gain a competitive advantage.

On the other hand, for teamsters and cartage companies, a closer connection between the railroads, the market place, and the cold-storage warehouses would mean a loss of business without any important compensating advantage. The loss to them is one of the costs of improvement, and would not justify, from a social point of view, the continued investment of capital and the employment of labor for an unnecessary purpose. It is only natural, however, that they should oppose any change that would deprive them of busi-

ness; and in one or two cases their opposition is said to have been an important factor in preventing contemplated improvements. Obviously it can have this effect wherever the change involves the bringing of a spur track to the produce district, the closing of streets for the building of a terminal market, or anything for which municipal consent is required.

In a number of places the cartage business is well organized, and agreements are made fixing the rates to be charged. In some instances a schedule showing the rates for different commodities is printed and distributed among the dealers. While there is plenty of evidence that cartage is expensive, there is very little complaint that the charges are unduly high under the circumstances. In some cases, it is said the dealers themselves are consulted in determining what the rates shall be, and in one instance it is reported that the published rates are merely advisory and are sometimes cut. In this case representatives of the cartage interests say that rate fixing by the National Government is desired. There can be no doubt, of course, that agreements on rates are intended to have some influence and that their natural effect is to lessen the severity of competition, at least as far as prices are concerned. On the other hand, a published rate that is the same to all dealers is not without its advantages. In New York it is claimed that one of the objects of the price agreements is the elimination of rebates. It does not appear that the cartage agreements in the various cities where they exist have resulted in any substantial degree of monopoly. The business is one that is easily entered, and so far as has been learned no effort has been made to exclude men from it.

While the cost of cartage to the dealers' stores could be greatly reduced by the establishment of union terminal markets, no equivalent saving could ordinarily be expected to result as regards the transfer of goods from the wholesale to the retail dealers. For the wholesalers one market district, or, perhaps in some cases, a main and small number of subordinate districts, is desirable. The retailers, however, except in the smallest cities, should be scattered, many of them being in the residence districts. A change in the location of the wholesale market might make the average haul a little longer or a little shorter, but it would not ordinarily change the amount of goods to be carried or the amount of loading and unloading that would have to be done.

It does not follow, however, that no improvement in the present arrangements is possible. Sometimes the work is now done by wagons belonging to the wholesaler, sometimes by those belonging to the retailer, and sometimes by those belonging to independent truckmen. Whatever the method the amount of goods involved in a

single shipment is usually much smaller and the number of shipments much larger than when the goods are brought from the terminals or the warehouses to the stores of the wholesale dealers. Frequently the goods sent from a given wholesaler to a given retailer are less than a wagonload. Besides the problem of transfer there is, to a much greater extent than in the case of receipts by the wholesalers, the problem of collection from a number of different points, of delivering to a number of different points which may be widely scattered, of wagons loaded to less than their capacity, of wagons too small to render the most efficient service, or more than one of these.

CHAPTER III.

CONDITIONS IN THE WHOLESALE MARKETING OF PRODUCE WHICH MAKE FOR LOSSES.

LOSSES AT PRODUCING AND SHIPPING POINTS.

Section 1.—Losses on the farm and in the orchard.

Losses on the farm or in the orchard are not strictly within the scope of an investigation on marketing, but the treatment accorded produce at the farm has often a very direct bearing upon the loss sustained during the wholesale marketing process. For this reason some of the losses occurring on the farm or due to injury before leaving the producer's hands, which were called to the attention of the investigators by various dealers, are briefly mentioned.

There are heavy losses in fruit from the time it is harvested until it reaches the consumer. These take place at every point, including the time when the fruit is in the hands of the grower. In fact, it is asserted by one of the large fruit growers' agencies that the greatest waste of fruit occurs in the orchards. Growers often do not give the crop the proper attention, and part of it becomes too ripe to pick. There is often neglect to thin a crop of such fruit as peaches, with a commercially poor result. A big waste is due to failure to spray the orchard properly, and apple orchards supposed to be well cared for have shown as high a percentage of waste as 33 per cent from worms, scale, etc.

Dealers state that potatoes are much more delicate than people generally realize, and that exposure for even an hour or two after digging will cause them to "sweat" later in the car, as will also certain climatic conditions before digging. One Chicago firm estimates that about \$100,000 worth of Louisiana and Mississippi potatoes rotted in transit to Chicago in 1918. For this the growers were principally to blame, in that the potatoes were not in proper condition when packed and shipped. Converting unsalable potatoes into starch and alcohol is not worth while after freight to the terminal market has been paid on them. Such factories should be located in the production districts if they are to be profitable.

Heavy frosts in the fall sometimes harm potatoes before they are dug. This damage can not be detected by the buyer, as its development takes 10 days to 2 weeks; so the potatoes are taken in at warehouses or loaded upon cars in presumably first-class condition. Much trouble of this kind has been experienced by all the potato trade,

because all markets have been at times more or less glutted with damaged stock.

Occasionally some disease will appear in potatoes, causing them to decay, the indication of the disease not appearing until the potatoes have been in cars or warehouse for some days.

Not all farmers who raise poultry for marketing realize the value of the better breeds, the advantage of marketing at the proper age, and the necessity of seeing that poultry is transported in containers which will prevent injury from careless handling. Failing in these details, the producer receives less return for his time and labor, while the consumer sustains a loss through having to pay a higher price or to accept a poorer product than was really necessary.

The hauling of produce from the farm to the local shipping point is not only an item of expense added to the first cost of the goods, but may also be a source of damage to the produce, if the roads are poor, the distance great, and the goods carried in a vehicle which does not give them proper protection and which permits the bruising of fruit and breaking of eggs.

FARM TREATMENT OF EGGS.—One of the important elements entering into the spread between the price paid the farmer for his eggs and that received by the dealer from the consumer lies in the lack of proper treatment of the eggs by the farmer himself. The cost of handling and transporting an unsalable egg is as great as that for one of good quality. At whatever point in the marketing process the bad egg is eliminated, not only its primary cost, but also its proportion of all costs for handling and transportation up to that point must be added to that of the remainder.

It is important that the farmer maintain a proper and cleanly condition for the fowls that are producing. He should gather the fresh-laid eggs at least once every day, and in warm weather two or three times a day, keeping them in the most even temperature and bringing them to market often. A clearer understanding of the reasons why fresh eggs deteriorate rapidly would help to bring about better conditions.

Although the idea that hens will not lay unless allowed to run with the male birds has been discredited, many farmers continue to believe it. Especially during warm weather this is the cause of heavy loss, since the fertile eggs produce the so-called "blood rings." These follow a certain stage of chick development in the egg, the heat of the summer in the nest or the storeroom often stimulating it until it becomes a blood ring. It has been estimated that there is an annual loss of \$15,000,000 due to the presence of blood rings in eggs, and practically every dollar of this loss is directly preventable on the farm. As far as its value for food is concerned, the egg containing a blood ring is as bad as is a black rot, and it has to be put

in the rotten heap the same as if it were actually rotten. These rings can not be produced in the nonfertile egg. One entire carload was reported to contain so many eggs with red rings, being partially hatched, as to make it impossible, or not worth the expense, to candle. Yet there were very few bad eggs of any other sort in the car.

That the production of nonfertile eggs would mean a prevention of considerable loss of food, to the benefit of both producer and consumer, is asserted by Mr. Frank S. Krause, Federal food administrator of Ohio, a State in which the egg production is heavy. He says:

Lack of proper handling makes the best food articles no better than the ordinary. It is a matter of education not alone of the consumer, but also the producer. In the storage of eggs, experience has taught that the nonfertile eggs will and do preserve much longer than fertile eggs. A nonfertile egg, if turned occasionally by tipping the crate first upside down, then to the side, and again to the other side, at intervals of 30 days, will come out sweet, clear, and solid, defying any expert to tell same from a new-laid egg. The April or May nonfertile eggs will, with proper care, come out 8 to 12 months later 95 per cent clear, with full original liquid contents intact. So good are these eggs that a big percentage of these get into new crates and are sold for current (new-laid) stock to the retailer first, and then to the consumer. Now, if the egg producers in some way could join forces, keep 90 per cent of their laying hens in nonfertile flocks, the egg problem would soon solve itself, for they then would do their own storing and thereby eliminate the easy-money fellow, the profiteer, the gambler, and eggs would hover around 40 cents a dozen all the year around. Nonfertile eggs from registered nonfertile producers should bring more and are worth more than mixed or fertile storage eggs.

Section 2.—Losses due to poor packing of goods.

Improper and careless packing of perishable goods and the use of unfit containers by the producers and shippers account for the loss and deterioration of many goods, and are reported to be the cause of much trouble to dealers. The containers used by many shippers are too frail and often cause damage to the contents through collapsing en route or in handling. Not all shippers are sufficiently careful of the condition in which their products leave the shipping station and large amounts of produce are shipped only to go to waste through the shippers' failure to take this care. Dealers urge that the Government should compel farmers and shippers to use a stronger package or container in which to send their goods.

It is reported that in 1917 there was considerable loss in the shipments of California dried fruits, due to the fact that the packages were not strong enough to stand the hardships of a continental trip. By reason of being transferred in transit and roughly handled they were broken open and the contents scattered over the car, involving a considerable loss of products. Losses of one firm were largely in 50-pound boxes of raisins from California. The containers were so frail that many were broken on account of the excessive loading of

the cars. It is reported that this loss has now been practically eliminated by the substitution of 25-pound boxes for the 50-pound.

At least a part of the large amount of egg breakage which occurs in transit (see pp. 108-112) is due to the lack of care in packing and the light filler used. If properly packed, the eggs will not be so often damaged on the road. The Poultry Producers of Central California report that because their members make a business of handling eggs and all eggs are well packed for transportation the eggs actually broken in transit probably do not amount to one-tenth of 1 per cent of the total. Some of the eggs are cracked, but these are not a total loss, because they are emptied into cans and sold to the bakery trade. On the other hand, dealers in eastern cities state that some of the eggs coming from shipping points in Tennessee are packed so poorly that even the natural jarring of the freight cars is sufficient to break a large number of eggs in every case.

Some loss of butter, said by one dealer to be of considerable extent, occurs through tubs becoming moldy. This may be partly due to inferior refrigerator service on the railroads, but could be in large part prevented if the creameries used well-seasoned tubs, soaking them well in strong brine before packing with butter.

Dealers in fruits and vegetables complain that goods are sometimes shipped while water-soaked, so that they shrink in transit and arrive in poor condition. They state that inspection of weight and quality by Government agents at the point of shipment would be the proper remedy for this as for underweight shipments and over-billing.

One dealer reports a loss on a car of potatoes due to their having been sacked too long. This caused dry rot and mold. There is sometimes difficulty at the terminal point from potatoes spoiling en route because they were wet when shipped. The loss in such cases is not only that on the bad potatoes thrown out and the cost of original handling and transportation of the bad potatoes but also a charge for sorting and rebagging the entire car of potatoes, which may cost 8 to 10 cents per sack.

Potatoes are frequently shipped in bulk, which makes them more expensive to handle (except from larger producing centers to the few very large markets, which act as centers of grading and redistribution), causes greater waste, and in cold weather more serious injury from freezing. When potatoes freeze in transit they always freeze on the bottom of the car, except, perhaps, with certain types of cars provided with false bottoms for securing better circulation of air. If the potatoes are in packages, only the bottom layer of packages is lost. If, however, the car is loaded in bulk the frozen potatoes in being unloaded become mixed with those unfrozen, and the

whole car must be sold at a greatly reduced price. It takes two men about two days to unload a car of bulk potatoes, causing cars to be held longer than if the potatoes had been shipped in packages.

Sweet potatoes are shipped by producers without first being properly cured, with resultant heavy losses and deterioration in quality. Unless cured, sweet potatoes can not be stored or stand long shipment. Until recently, therefore, they were a purely seasonal and somewhat local crop. The progressive farmer at present cures them so that they can be shipped for great distances and stored for long periods of time if kept at a temperature of a little over 50°. Curing is a simple process which can be carried on by the small farmer, consisting merely in drying the skin of the potato very evenly prior to shipping or storing. For this purpose farmers have small storehouses with racks for the sweet potatoes and oil stoves for the drying or "curing" process.

Ventilation is a prime necessity for fruit. Apples packed tightly in barrels will often be found damaged by the carbon dioxide from the fruit itself, even though the car or storeroom is of proper temperature and fairly well ventilated. A firm which makes a specialty of handling apples reports that it carefully instructs the growers as to the proper methods of packing and has all apples packed in well-ventilated packages, especially hampers. By using careful methods of packing, as well as careful storing and handling, this firm has reduced its loss materially, reporting that during the winter of 1917-18 the shrinkage amounted to only one-fourth to one-half of 1 per cent. Over a dollar per barrel more was received for a carload of these apples than if they had been barreled and handled in the ordinary way.

Losses due to poor packing of goods may in the first instance fall upon the dealer who receives the goods; and by him they are charged to profit and loss and passed on to the consumer through higher prices when opportunity permits. But the producer or shipper who is careless in packing his goods is also a loser, since he always has greater difficulty in finding a market. Dealers seldom buy outright except from those known to ship a good pack. An Oklahoma dealer states that in his market most consignments of fresh fruits and vegetables are made by shippers who are, as a rule, very poor packers, although often thinking and asserting that their packing is as good as others. Cash buyers can not afford to buy from such shippers and pay the same price which they pay good packers. Consequently the inferior packers are forced to consign their goods. They are seldom familiar with the different markets, so they naturally consign to commission men who have sent them their literature. They have little or no actual knowledge of the character of the consignee, and may, therefore, be liable to still

further loss from the procedure of a dishonest or incompetent consignee.

FAILURE TO SORT AND GRADE PRODUCE.—There is a pretty general complaint of loss through failure on the part of the producer or original shipper to sort and grade his produce properly. Although much agitation for grading has occurred it is said that few farmers know or care much about grading or packing. While an increasing amount of attention is being paid to this there are still many farmers to whom a dozen eggs or a barrel of apples is the same as any other lot of eggs or apples without consideration of color, variety, size or even state of incipient decay. When such farmers bring produce to the local collecting point without separating good from bad or large from small, the shipper is compelled to grade the goods before shipping them, or the price paid for the ungraded produce will be much lower. If shipments are sent in an ungraded condition to terminal markets the receivers are compelled to sort and grade the goods before disposing of them.

Even though a shipper may sell an ungraded car of such produce as potatoes, the dealer can not resell it without grading. This results in a waste of the sacks for such proportion of the car as may have to be dumped; the loss of the amount expended for transportation on worthless product; the use of railroad equipment which could be utilized for more valuable produce; and the employment of labor necessary for grading at the point of destination. Such labor is generally more expensive in the receiving markets than in the producing districts. When the potatoes are being resorted, railroad equipment is often held up and there is likelihood of deterioration to the produce during this delay. Regulations for the grading of potatoes have been established, but similar regulations covering all perishable products could be inaugurated and would improve the general quality and eliminate much waste. Such regulations should necessarily apply to the producer and packer where the products are grown.

A large produce dealer of New Orleans, La., reports: "Actual experience has proven that the greatest difficulty in marketing southern products, such as potatoes, onions, cabbages, and staple vegetables, arises from the ungraded condition of the larger percentage of the products as they come from the producers. Were the growers in each locality to organize, adopt a uniform grade, and pack in keeping with United States Government standards, the problem of marketing their products would be greatly simplified. Our experience has proven that the northern and western jobbers and distributors do not hesitate to buy their supplies f. o. b. loading station, and are willing to pay spot cash f. o. b. loading station provided they have assur-

ance that the products purchased will be of standard grade and quality, properly loaded and packed." A wholesale dealer in St. Louis, Mo., reports that although he does not solicit any commission business, about 100 cars of southern vegetables during the winter and spring of 1918 were handled by him on consignment, because much of this class of produce is not sorted and graded thoroughly enough to make it possible to buy without inspection, and he felt the most satisfactory method of handling it was on consignment.

Many shippers complain that when goods are contracted for at a stipulated price, and the market weakens before the arrival of the car or cars, dealers will reject the goods, claiming to find some fault with them. (See pp. 175-176.) In enough cases to confuse the issue the shippers are to blame for shipping offgrade products. Inspectors at shipping points are suggested to remedy this, and regulations that goods passed by the inspectors must be accepted regardless of market conditions. Such inspection would be of value in educating producers and shippers and furnishing an immediate incentive to put up commodities in high-grade manner.

In fact many dealers as well as shippers insist that instead of having official inspectors at receiving points it would be of more benefit in preventing waste and loss if Federal inspectors were located at all shipping points to inspect the quality, grade, and quantity of all produce shipped. It is claimed that such an inspection system, working with a nationally established plan of standard grades and uniformly recognized sizes of packages, would prevent rejection without just grounds as well as does the present system, and in addition would better protect the dealer who buys f. o. b. loading station. It would also make easier the collection of damages for injury in transit. The exact grade, Nos. 1, 2, or 3, etc., could be marked or stenciled plainly on the package by the inspector. Under such plan the purchasing dealer would be in a position to know just what he is buying, and eventually all foodstuffs would be sold according to the quality or condition.

New York producers have complained that New York City, which should be their natural market, receives from the West many lines of products which are equally as well produced in New York State. It is intimated by some that there are discriminations against the up-State producers on the part of railroads and city dealers. Whether such discriminations exist or not, it seems evident that one factor at least that makes for the preference for more distantly produced goods is found in the general charge that the New York producer does not pay as great attention to grading his goods and guaranteeing the quality. A large retail grocer of New York City states the case in these words:

If a farmers' association were formed up-State to grade its goods and guarantee them, it would create confidence and would also eliminate a great deal of waste. The creation of confidence and the improvement in the condition of the product always tend to facilitate trade. If the farmer were satisfied that the full quantity of goods he raised could be sold at a fair price, he would raise as much as possible. That would bring more goods into the market and would have a tendency to reduce prices. It would also reduce the trouble and worry of the retail dealer in getting his goods.

Failure to candle eggs and eliminate all not up to standard before they were shipped has been a cause of heavy loss in the past. One large dealer estimates that there was formerly a loss of from \$50,000,000 to \$100,000,000 a year on eggs. The candling of eggs by country dealers has lowered the loss considerably, but the average loss of one New York firm is reported to be still about 1 dozen out of a case of 30 dozen, with the loss during the summer running as high as 2 to 3 dozen per case. Its bad eggs are sold to tanners for use in the tanning of leather, but the lower price at which they are sold materially reduces the price paid the farmers generally for eggs, at the same time adding to the cost of good eggs and increasing the price demanded of the consumer. While candling at the shipping point would cause an additional expense and an immediate loss to the shipper, and he would have to prorate this loss over his good eggs, thereby increasing their price at point of shipment, nevertheless the saving in transportation, and perhaps the prompt local use of rejected eggs, should ultimately result in advantage in price to the consumer.

The matter of proper grading and packing is a more or less technical affair. It would hardly be possible for every individual farmer to become an expert, even if he were able and willing to devote the necessary time and thought. Cooperation of the producers in some form is a requisite in order that the grading and packing may be done under the direction of an expert employed by them or of one of themselves who has a special aptitude for this work.

Various growers' associations have been valuable to all concerned in the matter of establishing grades and standard packages and taking care that no goods not fully up to grade shall be shipped under the association label. They are educating the producer, showing how he must handle his produce to get the best grading and prices, and some of them are so reliable in their grading and packing that the receiver knows he will get what he contracts for. In most lines, however, there is no uniformity as between the various associations.

Some dealers and shippers state that as much as half of the marketing troubles is the fault of the shipper at producing points. Competition in buying from the farmer invites acceptance of farm products that are not up to the standard in quality, and these often are forwarded to the consuming markets without proper grading.

Commission men claim that complaints of shippers and producers as to commission dealings come chiefly from poor shippers. Such shippers do not know their business, ship green or overripe fruit and vegetables, packed improperly, yet expect first-class prices without realizing that it costs the dealer just as much to handle poor stuff as to handle a higher grade.

LACK OF UNIFORM STANDARD PACKAGES.—An added cost, and hence a loss affecting to some extent both producer and consumer, arises through lack of uniformity in sizes of packages as well as from different standards of grades. Each producing district, sometimes each shipper, has an individual size and style of package and method of grading. On the other hand, each market has its customary standards of package and grade. The result is confusion in knowing during negotiations just what amount and quality is being purchased, and usually an added cost at the terminal market for regrading and repacking.

Cucumbers, beans, and peas are shipped to the New York market from Florida, Georgia, Virginia, New Jersey, and Long Island, and the packages from each of these sections are of different size. Those coming from Florida are in hampers, which contain a scant bushel if packed tightly. Those from Virginia are much larger, containing a little over a bushel, while the shippers in Long Island and New Jersey often ship in bags with no specific weight. The same comment may be made regarding cabbage shipped from these same sections, as the crates that come from Florida and Virginia are of different size, while New Jersey and Long Island men ship particularly in barrels. Potatoes are shipped in packages which vary from 10 to 15 pounds. In another market where most of the potatoes are handled in bags, the bags were found not to be of even weight, instances being encountered of bags containing only $2\frac{1}{2}$ bushels and sold for 3 bushels.

Many of the berry growers of California, instead of using crates for marketing their product, use large boxes called chests, containing several drawers. Each drawer carries six boxes of berries. Although most berry-growing districts have now adopted the crate, since by the use of crates the product keeps better and can be shipped farther, the California growers retain the chest method and are therefore restricted to the San Francisco and Oakland markets. When the berry season is at its height these markets are customarily glutted with berries and the growers are at the mercy of the produce dealers and canneries in the matter of price. It is alleged that produce dealers, desiring to have things in their own hands, tell growers that their berries would not sell in crates.

The need for a more uniform standard in packages is expressed by dealers in all markets. They would require as standards the size and form which, after careful test, were found to be the best for each

line of goods, and urge also the establishment and enforcement of standard grades. Dealers also argue that where the law requires the contents of a package to be marked thereon, the shipper should be required so to mark the package. They assert that at present the receiver and seller are required to weigh and mark before selling and that this is physically impossible.

ADVANTAGES OF STANDARD GRADES AND PACKAGES.—If there were duly recognized grades and standard packages for various kinds of produce, producers would soon realize that their success depended upon having their goods up to grade and full weight or measure. Much of the present suspicion between farmer and dealer would disappear, and with it the very certain but somewhat intangible loss due to the fact that each party adds something to the general price as an unrecognized insurance against the occasional loss. The shipper of standardized goods will receive a better price for all his goods, and the dealer, relieved of considerable expense of sorting, grading, and packing, can pass on the saving to the retailer and indirectly to the consumer. Dealers assert that much loss could be prevented and greater confidence established between and among producers, shippers, and dealers if uniform grades and standard packages could be nationally established, and the exact grade and amount of contents marked or stenciled plainly on each package, adopting in the produce trade something of the principle of the pure-food law. It is said that uniform packages and Government standards of grading would provide the remedy for such dishonest commission business as now exists.

Another advantage of uniform packages and National enforcement of standards of grading would be the material saving in the amount of railroad equipment necessary to move the produce. The following press notice, issued by the United States Railroad Administration under date of November 16, 1918, while not applying to foodstuff, illustrates this possibility of saving. It reads as follows:

In order to permit the full utilization of equipment in the shipment of tobacco, a plan for the adoption of a so-called standard hogshead which will allow double tiering in freight cars used for this purpose is being worked out by Director General McAdoo in conjunction with the War Industries Board.

Under the proposed arrangement, instead of requiring 50,000 cars to move 1,000,000,000 pounds of tobacco, probably the same amount can be transported in 32,000 cars by use of the standard containers.

Under the present system tobacco to be used in the manufacture of cigarettes, chewing and smoking tobacco, moves in hogsheads 48 by 52 inches, 48 by 56 inches, or 48 by 60 inches, which does not permit of full utilization of equipment. An effort is now being made to have adopted a standard hogshead 46 by 46 inches.

Even without a Government inspection system and without any nationally recognized grades of produce and standard sizes of package, a loss to both producer and consumer can be prevented if the original producer or shipper sorts his produce so that each lot contains the same size, quality, and condition. The producer will receive a higher price, yet the cost to the consumer will be lower, since the necessity of so much handling and resorting will have been eliminated.

In considering the advantages of standardization in this, as in any other industry, regard must also be had to the fact that standardization may be used to the disadvantage of the consumer in that only by it can price agreements or combinations be made effective. Those who would successfully enforce a price agreement must first standardize their wares.

Section 3.—Lack of facilities at shipping points.

Fruits and vegetables are deemed unfit for human consumption until they reach a certain degree of maturity and therefore can not be marketed or stored until this condition is reached. In the North a large percentage of fruits and vegetables reach this stage just before freezing weather, and therefore the goods either have to be stored in frost-proof houses, loaded in cars and shipped promptly, or left on the ground to freeze.

There are a great many shipping points where storage facilities can take care of only part of the goods, and there are numerous shipping points which have no storage facilities whatsoever. In addition, there is a large percentage of fruits and vegetables which are perfectly good for immediate consumption, but would not keep in storage. Therefore there is always, just before a freeze, a congestion of cars loaded with perishable freight on all the larger markets and a large amount of perishables awaiting transportation at shipping points. In many districts perishables remain unprotected from sun, rain, and snow while waiting for transportation. Lack of adequate protection is primarily to blame, but the train schedules could in many cases be more closely studied by the shippers to their advantage.

Even under the best of care there is some loss of all perishables through decay, but if they are exposed to the weather at the shipping station or not kept under proper uniform temperature the loss will be much greater. A large part of bona fide rejections of perishables by the receivers at terminal markets is due to lack of proper protection of the goods while waiting at the shipping points. The same necessity for refrigeration at shipping points exists in regard to eggs.

Thorough cooling of goods before shipment is not less important than refrigeration in transit. Fruit and vegetables shipped in hot

weather and closely packed in a car will cool very slowly, and even in a well-equipped and ventilated refrigerator car it may be two days or more before the load is chilled through. During this time the ripening process continues and decay starts. If, however, the fruit is thoroughly precooled in warehouses before the car is loaded, or precooled in the car before shipping, deterioration is arrested and loss prevented. The more modern method, employed where there are proper facilities, is to precool the fruit in the car after loading by running through the car cold air from the refrigeration plant. By reason of the smaller amount of handling this is cheaper and less damaging to the goods than if the fruit is first taken into the warehouse and afterwards loaded on the car.

Such cold-storage plants as exist at shipping points are generally owned by car-lot shippers, who are enabled to buy outright from the producer and hold the goods for the competitive bids of the jobbers and wholesalers in the terminal markets. The community refrigeration plant in the country towns, maintained by the producers and country dealers, in which the products can be held until a joint carload can be shipped or until satisfactory prices can be secured, is generally lacking.

LOSSES DURING TRANSPORTATION.

The complaints presented in sections 4 to 9 are of conditions that are mostly of long standing, antedating the operation of the railroads by the United States Railroad Administration. These conditions, made acute by the stress of war, seem not to be chargeable primarily to the management of the railroads, whether private or public, but rather to the diversified control, or the lack of control, of the marketing processes, which it is the object of this report to correct.

Section 4.—Shortage of properly equipped cars.

There is a very general complaint about the shortage of properly constructed cars equipped with the refrigeration and ventilation necessary for the transportation of fruits and vegetables, and some complaint of inability to secure cars for the shipment of poultry and eggs. These specially equipped cars are necessary for the economical transportation of highly perishable goods, such as berries, peaches, and tomatoes. Such goods are of little value unless proper cars for their transportation are immediately available, however well they are handled and protected at producing and shipping points. Even less perishable foods, such as apples, potatoes, and cabbages, must not be held too long and must be shipped in ventilated and refrigerated cars, or much loss will be sustained. Likewise, specially built cars must be used for the transportation of live poultry.

A large produce exchange of Virginia reports, as one of the two chief difficulties in marketing their products, the failure of the transportation companies to furnish them with ventilated cars adapted to the character of the product in the season in which it is being marketed. The potatoes and sweet potatoes are necessarily handled by these shippers prior to complete maturity and at a hot season of the year, which makes them extremely perishable commodities, requiring ventilated cars for successful shipment. Their shipping season for Irish potatoes begins about the 1st of June and continues until about the 10th of August, the hottest period in that part of the country. The doors of the ordinary freight car, which they are compelled to use for such shipments, are left open and slatted, affording ventilation for the bulk of the contents; but whenever the time required in transit exceeds four days, 8 or 10 barrels are rotted at each end of the car where there is no ventilation. Except that the shipping season for marketing sweet potatoes is later, beginning about the 1st of August, the same general situation applies to this product also. A shipper in Los Angeles, Calif., reports that because of shortage of proper equipment potatoes are often shipped in cattle cars, with the result that those exposed through the slats of the cars turn green and spoil.

A Florida shipper reports that the deterioration and waste of tomatoes during the marketing process averaged $2\frac{1}{2}$ to 5 per cent, due principally to the failure to secure proper equipment for shipping purposes. A firm in New York State estimates a loss of about \$2,200 caused by inability to secure cars for shipping peaches. The fruit ripened so much while held at the shipping station waiting for refrigerator cars that when finally loaded and shipped it arrived in bad order.

A firm of fruit shippers in Seattle explains that at present soft fruits suffer from both cold and heat. It urges a better type of car, and asserts that the life of the industry is threatened at present. It states that it has unpaid claims against one railroad of \$150,000, representing losses during 1916 and 1917 from freezing which was due to two main reasons, the shortage of cars which prevented prompt movement of fruit, and inefficient types of the ventilated cars commonly used for transporting apples and of the refrigerator cars used for soft fruit.

During the 1917 car shortage some fruit shippers of Washington were forced to use ordinary box cars, in order to get their product to market. Five thousand box cars were sent from the city of Wenatchee alone, the cost of fitting them for fruit shipments being borne by the shippers. One firm reports an expenditure of \$10,000 for equipping cars. In spite of care in refitting the cars, a large proportion of them reached the market with part of the contents frozen. Heavy claims were filed against the railroads, on which no collection had yet been made in the fall of 1918.

Some shippers and dealers believe that at least a part of the serious breakage of eggs in transit is due to lack of cars properly equipped for their transportation. The goods ride not only upon the floor of the car, where they are somewhat protected by the springs under the car, but also upon the end wall of the car, receiving many bumps which would be sufficient to account for much of the damage. Some method of placing a cushion or spring in each end of the car is proposed. A fruit dealer suggests the same idea for fruit shipments, claiming that peaches and other delicate produce are badly damaged by car shocks and that some such device would save vast amounts of perishable food now being lost.

Shippers of perishable farm products in Michigan, shippers of potatoes in Wisconsin, and fruit shippers in California and Washington report that the shortage of cars was especially bad in 1917. The situation in this regard had materially improved following the assumption of control by the United States Railroad Administration.

Not only an actual shortage of proper cars for handling the 1917 crop of Wisconsin potatoes is alleged, but in addition a serious discrimination in the distribution of cars. It is asserted that before the shipping season began certain heavy shippers, under the impending shortage of cars, made leases or contracts for the control of all the privately owned refrigerator cars assigned to the Wisconsin territory. No such leasing of cars had been known before in that territory. The employees of the railroads were instructed not to allow any of these cars to be loaded except by the large companies who had leased them, and many were unable to get refrigerator cars to ship their potatoes, except as stray cars turned up here and there.

It is stated that this discrimination was secured by the payment to the private car companies of a fee, which was essentially a bonus, of about \$20 per trip; and it is urged that such discrimination should not be allowed and would be remedied by Government control of the specially equipped cars now owned by private car companies. One Wisconsin firm is said to have lost during that season \$35,000 to \$40,000, attributable in part at least to inability to obtain cars in which to ship its potatoes. Fruit dealers of California also criticize the private car lines and urge that they should be taken over by the United States Railroad Administration.

Fruit shippers of the Northwest likewise complain of the private ownership of specially equipped cars, asserting that the distribution of such facilities has not been fair and equitable; that the large packing companies can tie up the private cars, and that in 1917 it was impossible for the average shipper to obtain private car equipment without paying a premium for it. These shippers urge that if the Government were to take over the rolling stock used in shipping fruit it would result in a fairer distribution of available facilities

and the adoption of a better type of car, such as one which has been designed by the Bureau of Markets, United States Department of Agriculture.

Charges of discrimination in the distribution of cars previous to control by the United States Railroad Administration are not limited to shippers of fruit and vegetables. Shippers of meat, poultry, and eggs say that while they feel that cars of the railroad companies are now being distributed fairly among all shippers, formerly they often had to wait a long time before cars could be secured, although there were plenty of cars in the territory. It has also been reported that some manufacturers of cereals have had difficulty in securing cars for shipment of their goods, while others, such as Armour, were always able to get car space through control of private cars.

Section 5.—Improper loading of produce.

Overloading of cars causes a certain amount of loss, especially with the soft fruits such as peaches, plums, apricots, pears, cherries, etc. The minimum weight required for carload shipments is so high that conformity to the rules requires that the fruit be too closely loaded. The upper tier of fruit deteriorates rapidly because of lack of proper circulation. The fruit or produce gets the benefit of the icing in each end to a certain level only, even if the car is perfectly equipped and carefully iced. Refrigeration is much better where the car is not loaded too full. The ice soon shakes down and the fruit placed up near the roof of the car, getting no benefit from the icing, sweats and spoils, while the fruit in the lower part of the car arrives in good condition.

A Georgia firm which both produces and ships fruit to northern markets reports that the railroads and the private refrigerator car lines require a minimum car of 22,500 pounds, which necessitates the loading of crates of peaches five tiers high in the car. According to its statement, proper refrigeration can be secured in a car loaded four tiers high, under normal transportation time. But the fifth or top tier, consisting of about 110 crates of peaches, arrives in an overripe condition, and must sell at about 20 per cent lower in price than the four lower tiers of the same car. This firm has tested the matter by loading some cars four tiers high and others five tiers high, and while there has never been any overripe fruit in the top tier of the former, the top tier of the latter has always shown deterioration. Yet when the car is loaded only four tiers high, the shippers are compelled to pay the same amount for freight as for the full minimum car. This makes the freight excessive on the four tiers shipped, since the freight charge of \$65 to \$80 for the 110 crates not shipped has to be paid and added to the transportation cost of the remaining crates.

Fresh vegetables are often packed in heavily loaded box cars in which there is little or no ventilation. Under such circumstances the vegetables are apt to be damaged by overheating and by the carbon dioxide gas given off. This tendency is increased if the potatoes, or other vegetables, are wet when shipped. Cars have been received with losses of 300 to 1,000 pounds of potatoes due to this cause. The loss in such case is not only the value of the potatoes, but also the cost of resorting them, several cents per sack. (See p. 79.)

Such products as asparagus and green peas are often too heavily loaded in the car, and the car closed. The green vegetables immediately begin to "sweat" and become warm, so that by the time the car reaches its destination, the produce may be ruined and is sure to have its value greatly lessened.

In loading less-than-carload shipments proper care is not always taken and sometimes the more perishable foods are placed in the ends of the car and are necessarily the last to be unloaded. The Division of Food Inspectors of the New York City Board of Health declares that not only is improper loading a cause of waste of fruits and vegetables, but that meat arrives in poor condition from being loaded too close in the cars or being sent in cars unsuited for shipping meat.

IMPROPER LOADING ON VESSELS.—At such ports as New York, which receive foodstuffs by water as well as by rail, there is criticism of the carelessness in handling perishable foods, and especially the manner in which they are loaded on the vessels. A broker dealing in imported fruits asserts that hardly a vessel comes into New York Harbor without the occurrence of thousands of dollars' worth of unnecessary damage from negligence and carelessness. An official of the Division of Food Inspectors, New York City Board of Health, says that while there is always a large spoilage of perishable foods shipped by rail, the loss on water shipments is much greater. During the war this increased, since much fruit decayed because of delays in movement of vessels caused by submarine activities and since much fruit formerly handled by fast steamers had to be shipped on slower moving liners and tramp vessels.

It is asserted that the steamship lines are more careless than the railroads, because they are protected against claims for damages by the terms of their bills of lading, while the railroads are, in theory at least, responsible for damage to goods being transported.

A common cause of waste and loss is in the loading of fruit on top of sugar. The heat from the sugar will often cause as much as 50 per cent of the fruit to spoil, when otherwise the normal spoilage should not be over 10 per cent. Another cause of damage is the loading of material over fruit and vegetables, cutting off circulation of air. In one case the steamship company had loaded cork on top

of a cargo of 40,000 crates of onions to be unloaded in New York. This cut off ventilation, and the entire shipment had rotted. It was stated that these onions, in good condition, would have been worth \$1 a crate on the market at that time. This therefore represents a loss of \$40,000 to the shipper of the onions and a heavy waste of food-stuff which should have been added to the supply for the consumer. A somewhat similar situation existed regarding a shipment of 617 crates of pineapples from Habana to New York, which arrived July 4, 1918. These pineapples were loaded over a shipment of sugar at Habana. Later the vessel called at Nassau, and a shipment of hemp was placed on top of the pineapples. The heat generated by the sugar beneath and the lack of ventilation caused by the hemp above, together with the delay due to the stop at Nassau, caused the pineapples to decay to such an extent that they were practically a total loss, the amount obtained for them not being sufficient to pay the freight charges.

Care and forethought should remedy this condition in great part even though it may be impracticable in many cases to equip steamers with special facilities for the proper carriage of perishables.

Section 6.—Losses from irregularity and delay in transit.

According to dealers in fruits, vegetables, and other lines of produce in all parts of the country, irregular freight schedules and the delay of shipments in transit form one of the most important causes of waste and loss, which they allege is entirely the fault of the railroad companies.

The shrinkage and waste on fruits in transit, due principally to unnecessary delays on the road, is estimated at from 5 to 10 per cent of the fruit handled, the heavier shrinkage occurring in such long-distance shipments as those from California to eastern markets. This is primarily a loss to the shipper, if fruit is shipped on consignment or subject to inspection at terminal; or to the receiver, if he has purchased f. o. b. shipping point, although even when he has so purchased the dealer often passes this back to the shipper by refusing to accept the goods without an allowance for the deterioration.

In case of loss by delay, there are to be considered not only the actual waste of food, which directly affects the consumer's supply, but also other losses, which affect the producers, shippers, and dealers and hence indirectly increase the cost of production, or the price of foodstuffs to the consumer, or both. The expense of packing the goods and loading them, as well as the freight charges, are as great for those goods which deteriorate on the way as for those which arrive in good condition, and this expense must be borne by the trade and is passed on so far as possible to the consumer in the price of

the better foodstuffs. Goods arriving at their destination in poor condition must all be sorted, regraded, and repacked—an item of considerable expense in the larger cities. Use of rolling stock for the transportation of foodstuffs which arrive in an unsalable condition adds an unnecessary factor to the obvious and extreme shortage of proper equipment. Many of the orders are given with a view to the arrival of the cars on certain specific dates, and delays in transit may bring the cars at a time when there has been a decline in the market from an excess of arrivals. Losses from delay may also be due to the fact that the product becomes less attractive in appearance even when there is no actual waste of food. The smaller price received by the shipper or receiver constitutes for him quite as real a loss as any other, although the lower price may be a saving to the retailers buying at that time. Such price reductions, however, are seldom passed on to the consumer.

The officers of a large eastern produce exchange shipping principally vegetables report that delays in transportation constitute one of their chief causes of loss and also an added difficulty in the ready marketing of their products, because receivers are slow to order when the factor of time of arrival remains so indefinite. A fixed schedule for highly perishable commodities to the most important markets would materially reduce the very large losses to themselves and their customers.

There have been very heavy losses in oranges, lemons, cauliflower, etc., from California points attributable, in part at least, to delays in transit. It is said that during the winter of 1917-18 California goods were 25 to 30 days en route to Eastern cities.

A Kansas dealer in produce estimates that over 75 per cent of his annual waste is due to delays in transit or at the terminal freight yard. It frequently happens that a car of perishables will be from two to four weeks reaching Wichita. He complains that fresh fruits are routed from California points over the Union Pacific instead of over the Santa Fe, which has direct connection with Wichita. He claims that while it was formerly possible to receive a car of fruits from California in 7 days from date of shipment when routed over the Santa Fe, it requires at least 13 to 15 days to receive a car routed over the Union Pacific. Notwithstanding the insistent protests of Wichita jobbers, all California fruits were being shipped by the longer route at the time of his complaint.

In spite of the most efficient refrigerator car service, the most highly perishable fruits and vegetables deteriorate rapidly in transit. It has been stated that a carload of strawberries loses in value from \$5 to \$10 an hour, according to the length of time it has been under way. The impairment of value becomes much greater if the refrigeration is not perfect; but in any case the length of time the

goods are to be in transit is a most important factor for the shipper in determining the market to which his goods shall be sent, or for the dealer in deciding upon the producing area in which he will contract for his produce. Hence the possibility of any delay over the usual necessary time of transit brings in an added element of speculation for the owner of the goods, varying from slight to total loss. Provision for insurance against this possibility by increased prices tends to be greater rather than smaller than the actual losses against which it provides.

Dealers in onions, cabbages, potatoes, and watermelons estimate that if a car is two days overdue the loss on the carload will be as much as \$100. A Chicago firm gives an example of a car which arrived in Chicago 14 days after leaving Knox, Ind., only 72 miles away. A similar example is given in Detroit of a shipment of 15 barrels of apples which came in after 11 days on the road from a shipping point 50 miles away, and were completely spoiled upon arrival. The dealer naturally refused to accept them and stated that as his story would not be credited he would be unable to get another lot from that town. Since 75 per cent of the southern and southwestern produce for Detroit comes through the Cincinnati gateway, the Detroit Produce Association requested that exclusive produce trains be dispatched from Cincinnati to Detroit. This was refused by the railroads, and as a result the cars came straggling in as parts of miscellaneous trains, and delays were common.

Delays may also interfere even more directly in production. A consignment of 16 cars of potatoes was purchased in Maine by a firm in Norfolk, Va., for seed purposes in the spring of 1918. They were shipped during February and the first 10 days of March. They arrived at destination points in Maryland and Virginia from March 15 to April 15, 1918, too late for planting. Germination had started and the potatoes were immediately consigned to the big markets for quick sale; but the loss to the dealers was heavy.

Shippers of live poultry report delays in transportation of their fowl, as well as carelessness in feeding and watering them in transit. This causes heavy losses to the shippers. The shrinkage in weight of live poultry, whenever delayed in transit or held unduly at terminals, amounts to from 5 to 10 per cent for each 24 hours. Some dealers assert that the minimum shrinkage in live poultry is 10 per cent for each day's delay. The buyers in some markets do not permit feeding or watering of the poultry before sale, and the shipper is compelled to stand the loss if poultry has been held for a day or more and loses this weight. There is an even greater delay in returning empty coops, crates, barrels, and bags to the growers and shippers. This compels them to tie up an excessive amount of capital in such accessories.

A shipper of live poultry in Nevada, Mo., states that he bills his cars out in the evening in order that the early train in the morning, which is supposed to handle such freight, will take them. Often this train will not take his cars and sometimes two to four trains pass before the cars are picked up. Often, so he states, the cars are set out at Sedalia, Mo., and remain from 12 to 24 hours; again they are pulled out at New Franklin, Mo., to stand 10 to 18 hours, thence going to St. Louis, where it takes the terminal railroad 15 to 30 hours to deliver the cars to the Wabash Railroad at East St. Louis. After the cars are in the hands of the Wabash, the service is good to New York City, but 2 or 3 days are lost within the State of Missouri. This delay adds to the expense for the men accompanying the cars, increases the possibility of loss of poultry, and makes it impossible for the shipper to time the cars to arrive at any specific date. It also makes the shipper incur a longer risk from the time the poultry is purchased from the producer until it is sold to the dealers. Previously it took 7 or 8 days for the cars to arrive in New York and the man in charge to return to Nevada, Mo. More recently it is requiring 8 to 10 days to transport the cars to New York and 2 days more for the return of the caretaker.

Although produce may arrive in such condition that there is no waste of food, delays may cause heavy losses to dealers through decline in market prices. A firm in Washington, D. C., purchased 48,000 sacks of potatoes at \$2.55 a sack, on September 28, 1918. They had not yet been delivered on October 23, 1918, and meantime the market had so declined that plenty of potatoes could be bought for \$2.25 a sack. A shipper of eggs at Fayetteville, Tenn., reports a loss in eggs due to the same cause. He purchased the eggs from producers the latter part of February, while prices were high, and shipped them to dealers in New York. Transportation was so delayed, due in great part to bad weather, that the market had declined before they arrived, causing him a loss of \$2,806.47.

Even without delay in transit, the shipper at any considerable distance from his market is always in danger of loss because of a decline in the market price. For example, the shipper of poultry and eggs buys from the producer in Tennessee during one week for delivery the latter part of the following week in such markets as Philadelphia, New York, and Boston. Meantime a decline in prices may cause the shipper a heavy loss. It is, of course, true that a rise in prices will net him an extra profit. The declines in market prices, however, generally increase from the beginning of spring through the heavier shipping period, while a rising market, except for some special reason, is generally found only when the amount of produce is diminishing. Losses due to a declining market, therefore, are certain to outweigh profits from a rising market,

even if these were always distributed in proportion to the losses. When the time consumed in transit is unexpectedly long because of traffic delays, this element of risk becomes a serious factor to the shipper.

During the summer of 1918 goods frequently took 5 or 6 days from Philadelphia to Harrisburg, Pa., for a normal trip of one day. Some dealers are suspicious that such delays, as well as the slowness in considering and settling claims, is an attempt on the part of the railroad to make things as uncomfortable as possible for the shippers in order to cast doubt upon Government operation of the roads. Among recent examples reported are a shipment of 196 cases of eggs from Shippensburg, Pa., to New York, almost 30 days on the road, with a loss of over \$500; ten cars of produce from West Virginia to Providence, R. I., taking 9 days en route and causing a loss of \$3,928 through deterioration due to the delay in transit; a car of potatoes on the road 14 days from Maine to New Haven, Conn., and another taking 10 days from Boston, Mass., to New Haven, Conn.

A dealer in Scranton, Pa., reports that he experiences great delays in the transportation of oleomargarine. A shipment leaving Elmira, N. Y., on June 7 did not arrive until June 14; another shipped June 28 arrived July 10. He alleges that there is discrimination, since the cars of the big meat packers seem to come through regularly while his do not.

The report of a Boston receiver of southern produce shows the direct effect which delays have upon producer and production. In the spring of 1918 he was in Florida and observed what he terms the finest cabbages he had ever seen being plowed up. On inquiry he found that owing to railroad and marketing delays not enough had been realized from shipments already made to pay the freight. The owner, therefore, was plowing up his fields preparatory to planting another kind of crop. So impressed was the dealer with the quality that he purchased 4 cars for shipment to Boston, believing they were worth the chance. He personally selected the cabbages and superintended the packing and loading, and is, therefore, certain that no fault attaches to improper handling at the shipping point. Delayed en route, the cars were 5 or 6 days longer on the way than they should have been, and 3 carloads were totally spoiled. The fourth carload was brought to his store and he realized \$12 more than enough to pay the freight on this one car. He lost the amount of the freight charges, as well as all the goods, on the other 3 cars.

In some sections of the country the delays in transportation are greater than in others, and dealers go to considerable extra expense rather than depend upon the railroads. A fruit and produce dealer

at Waterbury, Conn., has been finding the delays of railroad transportation so bad that he avoids the use of railroads as far as possible for the transportation of his goods from New York. His goods are brought by boat from New York to New Haven or Bridgeport, Conn., which are each 31 miles from Waterbury. He sends his motor trucks to these cities. In spite of the theoretically slower movement by water carriers and the average of only one round trip a day of the trucks, this water and motor borne freight reaches him sooner than freight by rail sent from New York the same day.

Large shippers of Oregon fruit state that since the United States Railroad Administration assumed control of the railroads traffic conditions seem to be much improved. Not only are the prospects for a sufficient supply of cars said to be somewhat better, but the time schedule from their shipping point to Chicago and Minneapolis has been cut from an average of 12 days to one of 8 days, so that now it may be possible for a car to make two trips during the fruit-packing season instead of only one trip.

DELAY AND DAMAGE IN SWITCHING.—There is much criticism of the railroad service at both large and small markets because of trouble and delay in securing transfer of produce cars by the belt or connecting lines from one railroad to another and the damage caused during the transferring and in switching cars in the freight yards. This is referred to (p. 111) as regards breakage of eggs.

The service in handling cars over the connecting lines and in switching produce cars in Chicago is very poor and the cause of heavy damages. So much injury is caused by switching that firms prefer to go to considerable expense for carting their produce from distant terminals rather than risk the transfer of the cars to nearer freight yards. Even in the freight yards more damage is done by roughly moving the cars from place to place.

It is estimated that about 50 per cent of all cars of perishable food consigned to Chicago is forwarded from that city to other markets. There is especially strong criticism of the transfer and switching delay in the case of such diverting, adding as it does to the length of time in transit and tending to increase the deterioration of the goods. Dealers report the frequent occurrence of two to four days' delay before the cars leave Chicago, chargeable to the inefficient service of the belt lines. They urge some more direct connections between the western and eastern railroads in order to prevent the waste and loss resulting from such delay of shipments.

In New York there is criticism of the railroads in regard to holding produce cars at the terminals, and delay in switching them to unloading points or floating them across the river to the piers in New York. This delay was greatly increased during the war, some

cars of perishables being delayed 48 to 60 hours more than in normal times. Such delay causes heavy losses to shippers and dealers; and great waste of foodstuffs. Much of such delay and consequent waste results from inadequate trackage facilities to accommodate the arriving cars, especially during the special seasons for marketing the most perishable fresh produce.

Typical cases involving loss from delay in switching and placing the cars for delivery are related by a shipper in Ohio. On July 11, 1917, he shipped to New York a car containing 235 cases of eggs. After arrival the car was held in the yards for about two weeks before delivery. Naturally the eggs were in bad condition. On July 31, 1917, the same shipper sent a car containing 151 cases, which was held in the yards four or five days during very hot weather. The shipper says that his loss on these two lots of eggs amounted to \$1,459.87. The dealers to whom such produce is sent are said to be always ready to unload as soon as cars are set and the railroads notify them of arrival. The large waste of foodstuffs due to cars lying around the yards after arrival seems therefore, in that view, the fault of the railroads.

It is reported that in Cincinnati the railroads are exceedingly unobliging about switching and transfer service. It is asserted that a car coming in, for example, on the Pennsylvania Railroad at the Broadway yard, even though billed for the Cincinnati, Hamilton & Dayton terminal, will not be sent over on the Pennsylvania's connecting tracks on Front Street, but may be sent 25 miles up country to Hamilton and thence to the Cincinnati, Hamilton & Dayton terminal in Cincinnati. If a dealer wants a car delivered at a particular terminal, either it is not sent at all, or if switched there it takes four or five days longer. Railroads are reported to refuse or delay switching cars into cold-storage warehouses, compelling otherwise unnecessary carting on the part of the dealer.

In Louisville, Ky., the merchants have many complaints to make regarding delays in switching cars from one group of freight yards across the city to the other group. Some produce cars come in on the other side of the Ohio River, at Jeffersonville yards, and others over the Kentucky and Indiana Terminal Railroad bridge, in the extreme west end of the town. A large dealer handling produce coming by rail states that 25 per cent of the cars coming into the west end of town were delayed from one and one-half to two days. There were cases reported of four days' delay in placing cars on the tracks for unloading after they had arrived in Louisville or Jeffersonville. The difficulty appears to be one of service alone, for the railroad facilities seem to be quite adequate. There is plenty of trackage and a connecting elevated line between the two groups of

freight yards. From all reports it would seem that the present situation is merely a less aggravated survival of a long-standing situation. The switching charge of \$2 is not excessive, but whether or not it is levied seems largely a matter of caprice. If the railroad company decides that a shipment might have originated on its own line, but instead was given to another line, it is more likely to make the switching charge than otherwise.

Great delays in switching cars from one railroad line to another are reported to be the rule rather than the exception in Minneapolis and are the cause of much trouble and extra carting expenses for the dealers. The tracks of the Minneapolis & St. Louis Railroad are within a few blocks of most of the produce dealers at the Central Market. The tracks of other lines are more distant, those of the Rock Island being distant about two miles, but cars from these lines can be switched to the tracks of the Minneapolis & St. Louis and so brought to a convenient location for the merchants to unload. However, it takes so much time and such an amount of effort to obtain the transfer of the cars that some dealers do not attempt it. The transfer system operates so slowly that usually 24 and sometimes 48 hours are required before cars are brought from the other railroad lines to the tracks near the Central Market. It is contended that it is cheaper as a general rule to unload the cars at the freight yards of the different roads and haul the fruit and other produce by truck, especially since in most cases highly perishable foods must be unloaded at once and disposed of or heavy losses are certain.

Shippers and receivers at St. Paul also complain of the inadequate switching and transfer service of the railroads, which necessitates a great deal of trucking to and from distant points. A large shipper, located on the tracks of the Northwestern, reports that he is able to load or unload cars at his plant and have them switched to or from other lines. But, except in the case of shipments over the Northwestern, it takes so much time and effort to obtain the transfer of the cars that he finds it cheaper to haul his goods to the different freight yards. He claims that it always takes 24 hours and sometimes 48 hours to get cars in near his plant.

In St. Louis there is similar complaint of loss from delay in switching, especially from the East St. Louis terminal yards. These yards are across the river in Illinois. Formerly there was ferry competition with the terminal railroad company in the matter of transferring cars from East St. Louis to St. Louis. While such competition existed the dealers could count upon the delivery of a car in about 4 hours. Now it is so often 36 hours before a car is placed on the other side of the river that dealers prefer to unload some of their cars in the East St. Louis yards and haul the goods rather than risk the delay.

The switching service in Kansas City is so slow and uncertain that dealers can not always afford to depend upon it. They feel that speed in handling perishable goods is of far more importance than cartage expense or other extra trouble, since the whole value of the car is at stake. For this reason many cars are unloaded at the freight yards at the Bottoms instead of being brought to the yards near the dealer. Dealers estimate the saving of expense by unloading at the Kansas City Southern yards as at least \$10 a car over cost at the Bottoms, yet some dealers state that they are unloading 95 per cent of their stuff at the latter place.

In Philadelphia the rail facilities are described as hopelessly inadequate and so congested that it takes as long a time to get a car over the belt line as to get it from Chicago to Philadelphia.

Dealers in Providence, R. I., state that most of the burdensome delay to their cars occurs after they reach Providence, while waiting to be switched to places where they can be unloaded. A dealer who puts much of his produce in a cold-storage warehouse considers that the railroad takes an unreasonable time in getting the cars spotted there.

There is much congestion in the railroad yards at Waterbury, Conn., but this is largely a recent condition arising out of the phenomenal growth of the city during the war. There is especial complaint about switching of the cars while partially unloaded. If the unloading is unfinished at night the truckmen are likely to find the car in an entirely different place when they come next morning. One dealer states that when he has his cars consigned to Naugatuck, 6 miles south of Waterbury, he can send his trucks there and get his produce more quickly than by taking it from the car in the local yards.

A dealer in Galveston, Tex., makes a typical complaint about delay in placing cars for unloading. A car of lettuce arrived in the city at 5 a. m. on a Saturday. It was 4.45 p. m. of the same day before it was placed on the track for unloading, at a spot about 1½ miles distant from its location in the morning. By that time the market was cleared and the goods could not be sold until Monday, causing a loss to the dealer of about \$155.

IRREGULARITY AND DELAY OF EXPRESS DELIVERIES.—Some dealers have their produce shipped by the express companies, but against these there is the same general complaint about irregularity and delay in transportation and delivery. This is attributable only in part to the general transportation delay, since the dealers state that deliveries are not made promptly by the express company after arrival of goods. Dealers in St. Louis state that they have many consignments of poultry, eggs, butter, fruits, and vegetables arriving by express but they no longer wait for delivery by the express company

because of the resulting delay. Often at about 9 a. m. they receive notice of shipment, but the goods which came on the same train with the letter will not begin to arrive until 3 or 4 p. m. Therefore they usually send their own trucks for these consignments, even though the trucks are often greatly delayed because of inadequate terminal facilities, which no doubt partly explains the delay of the express companies.

Shippers of poultry complain that poultry sent by express has not been delivered for five or six days, causing it to be in such bad condition as to be unsalable and a loss to the shippers. A shipper in Woodsfield, Ohio, sends practically all his live poultry by express to Homestead, Pa. His shipments leave the shipping point at noon and arrive in Pittsburgh, Pa., the same night. Here, according to his statement, the poultry stays about the express station from one to three days before delivery. This is alleged to be not only a source of loss to the owner but cruel to allow poultry to remain here so long when with proper service they could be sent from Pittsburgh to Homestead in an hour. Further complaint is made that claims for damages receive scant attention from the express companies, pending for many months without apparently having any attention being paid them.

A fruit and vegetable growers' association, complaining of the delay and rough handling by the express companies, states that its business is seriously handicapped because dealers are discouraged from ordering goods when they can not be sure they will arrive in salable condition. Shippers of eggs in New York State, who would prefer to sell direct to the retailers if they could get the eggs delivered by express on time and without loss in transit, find it now impossible to do so. They state the situation was so bad that they were nearly put out of business on account of breakage and nondelivery.

A firm of commission men in Kansas City, Mo., states that its only losses are those due to the failure of the express companies to deliver goods promptly. Often goods that should be delivered early in the morning are not delivered until afternoon during the greatest heat of the day, which causes loss of value in the produce. Dealers in Newark, N. J., complain that express service to their city is very bad. Shipments from the South arrive in poor condition, and sometimes one shipment will arrive in sections on four or five different express trains. In many instances these shipments have been carried past Newark to Jersey City and then reshipped to Newark on local trains in small lots.

Section 7.—Damage from heat, cold, and lack of ventilation.

Both shippers and receivers of carload lots call attention to the great waste of fruit and vegetables in transit, due to overheating,

freezing, and improper or insufficient ventilation. This occurs often from other causes than delay. Produce sent by rail is generally shipped in box cars. These may be the ordinary cars with tight ends and no ventilation, or cars with facilities for ventilation, or special cars with refrigerator or heating facilities. Transportation by refrigerator cars equipped with ice bunkers and properly ventilated is more expensive but greatly reduces the deterioration of the produce. There is considerable loss to shippers, and much waste in all lines of perishable foodstuffs, through failure of the railroads to ice and ventilate the cars properly while on the way. From the experience of the dealers it is evident that every year millions of dollars worth of fruit, vegetables, and eggs throughout the country are partially decomposed in refrigerator cars without ice as well as upon docks and freight floors.

Fruit and vegetables loaded into cars which are not precooled deteriorate more rapidly, even if the ice bunkers are well filled, than those placed in cars thoroughly chilled in advance. A large association of fruit and vegetable growers and shippers expresses the opinion that for carload shipments of perishable goods the railroads should ice and precool the cars at least 12 hours before setting them at the loading platforms. It asserts that such precooling would do much toward alleviating the waste and deterioration of vegetables in transit, would secure better condition at the delivery points and eliminate much of the present trouble of marketing.

During the hot weather there is considerable loss of butter in transit. A New York dealer estimated the loss to be about 5 per cent due to shrinkage, mold, and the labor necessary to remove the mold. One dealer says that he has received on occasion butter so warm that he could pour it out of the tubs almost like oil. He has himself gone to the freight yard and found the car hot, with every particle of the ice melted. He adds that he is particularly interested to know why the cars of the meat packers arrive ice-cold while his are arriving without any ice. There are also heavy losses in butter shipped by express where adequate refrigeration is lacking.

Losses due to lack of proper icing in transit are sometimes the fault of the shipper or dealer himself. For example, a Chicago dealer bought three carloads of apples in Michigan and shipped them to Chicago. At the time of purchase the weather was cool, so when loading the cars he decided that they would reach Chicago in good shape without any icing of the refrigerator car. The weather, however, became extremely warm; the cars were in transit a few more days than was calculated, and when they arrived the apples were overripe, so that they had to be sold immediately to street peddlers for whatever price could be obtained. His reported

loss on this was \$300, but probably only a small part of the apples was actually wasted.

There is some complaint that the charges for icing cars are excessive and that the cars do not in all cases receive the amount of ice for which the shipper or dealer pays. One dealer claims to have made an investigation in several cases and found that although he had paid for as much as 5 tons of ice on some shipments of fruit, not more than a ton and a half had been placed in the cars. Shippers say that poor insulation in refrigerator cars, and carelessness in not keeping the ice bunkers full cause a great deal of loss on the fruit and vegetables shipped. They urge that refrigerator cars should be overhauled more frequently to be sure that the insulation is in good condition, and that in like manner there should be frequent inspection to see that the padding on doors and ice plugs is kept in repair.

Typical losses from lack of refrigeration reported by dealers include a car of peas shipped from Buffalo, N. Y., which was a total loss on account of delay and lack of proper icing in transit. Again, a car of peaches reached Wilkes-Barre, Pa., August 5, 1918, with no ice in the car, although the bill of lading called for such icing as was necessary. The peaches arrived in such bad condition that some were sold as low as $7\frac{1}{2}$ cents a crate and some were thrown away, the loss on the car being between \$600 and \$700. Another car of peaches to the same consignee arrived September 4, 1918, in such poor condition that the dealer received \$350 less than the peaches had cost him.

The losses and waste from freezing of perishables in transit during the winter seem to be almost as great as those from overheating during the warm months. During the winter of 1917-18 the losses through freezing were especially heavy because of the severe weather and the lack of cars equipped with proper heating facilities.

A vegetable broker estimates that 70 per cent of the potatoes shipped into New York during that winter were a complete loss from freezing. He ascribes this loss partly to the low vitality of the potatoes, especially the early dug stock, but principally to shipping them in severe weather in unheated cars because shippers could not secure heated cars. Very few entire carloads were frozen, but the cost of sorting and repacking was added to the loss of a considerable part of the potatoes themselves. Frozen potatoes are not necessarily a waste, as they can be saved if thawed under proper conditions and consumed at once; but since the dealers generally have no facilities for such operations the frozen potatoes are generally a complete loss, being carted away and dumped into the river. Usually the shipper has to stand the loss for potatoes frozen, for cost of resorting and even the truckman's charges for carting away and dumping.

A produce traffic association reports that it has claims on file against the railroads aggregating half a million dollars, of which at least one-half is for damages due to inadequate protection from heat and cold. Many cars of produce arriving during the winter from the South are so badly frozen as to be a complete loss; others are in a very damaged condition. Part of the freezing occurs while the cars are rolling, part after arrival in the terminal yards before the cars can be reached by trucks and the goods removed. It is apparent that better heater service for winter shipments of perishable foods is necessary and would save a large amount of loss.

Proper ventilation in cars of fruits and vegetables is quite as important as proper temperature, and for some goods it is of even greater importance. Fresh fruit and vegetables in heavily loaded box cars without adequate ventilation have a tendency to be damaged from the heat they generate and the carbon-dioxide gas they give off. Cars sometimes arrive with such an amount of gas that it is impossible for a man to enter to inspect the goods until they have been opened for some time.

Even in properly equipped cars the ventilation is not always carefully handled. The gas causes deterioration if the car vents are closed, but if the vents are left wide open in warm weather, the ice melts too rapidly and the car temperature becomes too high. Dealers say that as a general rule the vents could be left open from the loading station to the first divisional limits, thus eliminating the danger of foul air and improving the refrigeration so that on a long run there would not be an additional cost of icing. The chief blame for the 30 per cent to 40 per cent deterioration of fruit in transit—which is the estimate of a fruit-shipping company in the Northwest—is placed upon the insufficient attention given to ventilation, heating, and refrigeration of the cars, because the railroad men do not understand the importance of care and personal supervision in these matters.

In certain territories and with certain types of cars the railroads give transportation to messengers accompanying the shipments of fruits. Some of the large fruit growers and shippers have a "messenger service" for the handling of their cars in transit. This is proving very successful in eliminating the waste and loss due to improper handling of the cars. Men who know the needs of the fruit are sent as messengers. They attend to the proper ventilation and temperature of the cars, opening the ventilators when the weather is right and closing them when passing through a dangerously cold temperature, starting the stoves if heat is necessary and putting them out when no longer needed. In addition to this, and to seeing that the cars are kept together, the messengers attend to delivery of the

cars to consignees at destination. This is of importance, for there is often great loss through the cars waiting in the yards.

Such messenger service, however valuable, can be undertaken only by shippers of a large number of cars. The expense for an occasional car would be prohibitive. Some dealers suggest that the railroads should employ men who thoroughly understand the products to care for cars in transit. Thus trains made up of cars from many different shippers would receive proper care.

Among suggestions for the elimination of losses in transit is that made by a large company in the Middle West. It advises that the carriers should have in their employ men who have had thorough experience in handling and marketing these lines, and such men should be placed in charge of the car-lot movement at shipping stations, diverting points, icing stations, and at unloading tracks at the terminals. According to this plan the man at the loading point would pass on the grade, quality, and the manner in which the car is loaded and braced. Such supervision would prevent losses due to improper loading and greatly reduce present friction and irritation, as well as sharp practices, between and among shippers, consignee and carrier in regard to claims for short, inferior grading, deterioration, etc. The man similarly in charge at the diverting point would have the duty of inspecting the contents of the car. If they were not in condition to carry to the destination to which it was being diverted he should advise the shipper in order that it might move to the nearest available market for immediate disposition. Even though this might at times throw the car upon a market already sufficiently supplied and so bring a reduced price, it would prevent a probable waste of foodstuff.

The man in charge at the icing stations would be able to attend properly to the icing of the cars, taking such special precautions as not to permit the bunkers to be opened or the plugs to be removed any longer than absolutely necessary to fill the bunkers with ice, especially in the cars of such commodities as cantaloupes, lettuce, and tomatoes. Cars of such products as cauliflower and celery should be inspected at all icing stations and, if the exterior temperature permits, be allowed at times to run for a few hours with the vents open and plugs out, in order to remove the carbon dioxide gas which these vegetables give off in considerable quantities.

The man in charge at the unloading tracks at the terminals should insist upon proper unloading of the cars and careful loading of the trucks. Under his control the car would be left in good condition at all times, and no broken crates permitted to lie in the doorway until the last truck is loaded, then thrown out in a haphazard manner, causing unnecessary waste. He could compel drivers and handlers

to load delicate fruits and vegetables in such a manner as to avoid bruising, and could compel protection in extremely warm or cold weather.

It would be impossible, even if it were not an uneconomical duplication, for the various shippers to provide such service for themselves; and few receivers of fruits and vegetables could afford to have a man in charge at the unloading track because there are few dealers whose volume of business would justify an extra man for this purpose.

Shipments by water cause far less damage from overheating and lack of ventilation than those by rail, unless the loading was improperly effected. (See pp. 91-92.) Steamboats generally carry the produce under cover on deck where it receives fair ventilation without exposure to any very high temperature or strong sun. Steamships very often have cooling rooms in which the produce can be carried. The ventilation for goods carried in the hold of steamships is not generally as good as that of refrigerator cars, but is often superior to that of the ordinary freight car.

Section 8.—Losses from rough and negligent handling.

Rough and negligent handling of goods by the railroads and express companies in transit and at loading, unloading, and transfer points causes some loss and waste. Dealers in the more perishable foodstuffs estimate this loss at from 2 per cent to 5 per cent, but the higher estimates appear to include losses due to other causes than merely rough handling, such as pilfering and normal shrinkage in transit. Wholesale grocers, whose goods are generally less perishable and largely in packages, estimate their average loss from rough and careless handling as comparatively small, some placing it as low as one-fourth of 1 per cent. While losses and waste from this cause are small in proportion to the total produce handled, the aggregate is sufficient to be an important factor in the cost of marketing and an item in limiting the supply of goods for consumption.

The losses from rough handling are greater on shipments by express than those by freight; and dealers generally consider express service inferior to freight in that regard. This has been explained during war time by the statement that it was impossible for the express companies to get the necessary skilled labor for handling the produce, but the evil, though increased during the war, existed previously. Thus a Baltimore commission man who deals in fruit states that rough handling on the railroads, together with pilfering, causes a loss of at least 2 per cent of his total sales, and that such loss is larger on products coming by express than on those by freight. This is because the express shipments are local and undergo more handling than the freight, which generally come in carload lots. One of the large produce dealers in Chicago never receives an uninjured ship-

ment of eggs. He reports that invariably such shipments, whether by freight or express, are damaged to some extent, undoubtedly the fault of rough handling or inexperienced labor. This criticism applies particularly to the delivery service of the express companies. So poor is the service that many dealers, notably in Chicago, prefer to haul the bulk of the express stuff themselves, even though (as in case of commission shipments) they may not be able to pass the extra charge back to the consignor.

Out of a recent carload shipment of corn meal to a wholesale grocery house in Philadelphia, about 50 bags were torn en route. The careless manner in which these bags were handled caused a total loss of the contents, which could have been saved by proper care. The consignee in this case asserts that it has been an unusual thing to receive a shipment intact; and that while it would be extremely difficult to give any fair estimate of such losses annually, they would "run into big figures." The Erie Railroad paid damages of \$2,444.05 for claims for loss of sugar due to such rough treatment during the year 1917, while for loss of fruit due to rough usage claims of \$33,003.92 were paid. It is claimed that this railroad had unusually low loss and damage claims to pay, due in part to the care with which damaged goods are salvaged. Even flour sweepings from cars are saved and sold.

Wholesale grocers say that they have received products like cornstarch which had been shipped in a car which had previously carried oil and not been properly cleaned. All the cases of cornstarch on the bottom of the car absorbed the oil and were a total loss. Sugar has been carried in a car in which fish had been shipped, with the result that the sugar absorbed the fish liquor and was a total loss.

Some of the loss charged to rough handling might be more fairly divided between this and the failure to pack the produce properly. Containers are at times too frail to stand even moderately rough handling.

The railroad men blame much of the damage from rough handling upon the treatment given the goods by truckmen. Under the present terminal system at most of the large cities it is impossible to allocate the fault and prevent the shifting of blame from one class of workers to another. No such shifting of responsibility is possible at those few terminals which have complete unloading facilities under competent supervision.

Shippers claim that enormous losses in live poultry are caused by gross negligence on the part of the common carriers. The poultry is not always properly fed and watered while in transit, and shippers urge the appointment of Government agents to go over the various railroad lines for the purpose of investigating the treat-

ment accorded and to insist on more prompt delivery of freight and express shipments.

Unexpected transfers of goods in transit are the occasion of loss and waste. It is reported that on August 10, 1918, a car of Bartlett pears was shipped from Yakima, Wash., to Baltimore, Md. The agreed price was \$1.85 a box f. o. b. Yakima. Goods from these shippers generally arrive in excellent condition, but in this case the fruit was transferred in transit and arrived in poor condition. Because of the condition of the fruit, the consignees refused to accept the car, and the broker representing the shippers was compelled to have the fruit sold at auction, which brought a return of only \$1.32 a box. The loss to the shippers was 53 cents a box and the amount of the freight charges, and it was apparently wholly due to the transfer of the shipment from one car to another.

Shipments, especially when delayed in delivery, sometimes arrive at an unexpected terminal. A New York commission man reports that a carload of huckleberries shipped him by express apparently became lost. Finally it turned up at another terminal as a freight shipment, but without billing. The circumstances were a source of considerable loss to the shipper.

There are a few complaints of shipments being wholly lost in transit. A fruit and vegetable company of New York states that on four different dates in May, 1917, certain barrels of apples were shipped from the company's own farm in South Carolina to its store in New York City. Not one of these four shipments ever arrived. In all four shipments there were 87 barrels, valued by them at \$775.59, shipped over the Seaboard Air Line. The company claims that although these losses were amply proven no settlement had been effected up to August, 1918.

However, losses from the disappearance of the shipment in transit are apparently few and the goods lost constitute a negligible part of the total. It is probable, therefore, that such losses, when they are not settled by the railroads, fall upon the owner of the goods, the shipper or receiver, without the incidence of the loss being shifted to either producer or consumer. A commission merchant in Baltimore, who handled 200,000 pounds of butter during the year, reports that the value of his lost shipments was only about \$200, and that for this loss the railroads settled in full.

THE BREAKAGE AND WETTING OF EGGS.—Shippers and dealers of eggs complain not only of the great amount of egg breakage in transit; but of other forms of negligent treatment. The loss of eggs through breakage due to rough treatment in transit is a serious waste, reducing the amount of foodstuff reaching the retailer and consumer, as well as being a heavy loss to shipper or dealer.

Two western handlers of eggs who reported on this to the Commission minimize egg breakage as a cause of loss. A dealer in Seattle says that on an average only four or five eggs to a case will be "checked." Such eggs are nicked or cracked, but not so badly as to make them unsalable, although, of course, they can not be sold as of so high a grade as the rest. These do not injure other eggs in the same case. According to this dealer the quantity of eggs so badly broken that contents are spilled is negligible. A California association of egg producers and shippers gives a similar report, stating that losses by breakage are estimated by them as less than one-tenth of 1 per cent of the eggs handled by them and attributing the small amount of loss to the care taken in packing.

Among the eastern dealers, however, there is practical unanimity as to the seriousness of loss to them and the shippers and as to waste of good food, and estimates were given ranging from 5 per cent and 10 per cent of all eggs handled, with a large proportion checked and salable only at a reduced price, to 25 per cent by one of New York's largest dealers. One New York dealer made a careful study of this item of loss during the month of June, 1918, and found it to equal 2½ per cent of the value of the eggs handled and 34.3 per cent of the transportation charges paid for that period. Some stated that the losses are heavier in the eggs of certain shippers who are careless in packing their eggs.

Other damages than from breakage are also complained of by egg men. Thus, a Boston firm handling large quantities of eggs states that its great trouble is delays of shipments from west of Chicago and damage to the goods in transit. It complains also of the lack of care in the handling of lots transferred across Chicago. Lots are not kept intact. Shipments often get mixed, with resultant shortages.

Damage also arises from the eggs getting wet by water running onto the floor of the car because of the blocking of the drainpipes. If the pipes were inspected en route, this damage, which is at times very heavy, could be avoided. The wetting of the eggs causes them to spoil very quickly, and such shipments can only be saved by quick handling. Since these shipments are generally handled quickly, they do not constitute a waste of food, but add to the losses of the dealer or shipper because of the reduced price sometimes necessary to move them at once. A Baltimore commission dealer reports two recent examples: In one car-lot shipment containing 453 cases of eggs 54 cases had become wet, and in a second shipment of 386 cases 97 were wet.

Especially do dealers criticise the system upon which railroads consider claims for damages. Because of the method of packing eggs, unless they receive an extremely heavy blow, they do not break sufficiently so that the egg content runs out, which would

indicate their condition before the case is opened. The railroads will entertain claims only for damage which is obvious at the time of unloading the cases from the cars. Rough handling in the process of transportation gives rise to a heavy loss through breakage, but this loss is concealed and unnoted until the case is opened and the eggs are removed. In a carload of eggs in which one or two cases show damage, there is certain to be a large number of other cases in which the eggs are broken but have not yet leaked through enough to show on the outside of the case. Since the railroads refuse to acknowledge any damage found after opening the cases, claiming that this is due to the fault of the trucking, the shipper or dealer is compelled to stand all loss from such concealed damage. Under this system of ignoring completely any concealed damage, the railroads entertain comparatively few claims and pay a very small part of the actual damage for which they are doubtless responsible. It is probable that if full damage had to be paid the railroads would attempt to handle the goods with greater care and adopt methods to prevent the enormous waste of this valuable food product.

Undoubtedly some of the damage found upon opening the cases at the dealer's place of business is due to careless handling by the truckmen and rough riding from the freight terminals. Dealers who have their warehouse so situated and arranged that the cars of eggs are placed directly at their platform and the eggs unloaded directly into their own storage, report that they not only save the expense of trucking the eggs but have less loss through breakage. But most dealers under the present system of marketing have no definite method by which to ascertain whether the breakage occurred before or after the eggs were taken from the cars, and are inclined to place the entire blame on the railroads. It is clear, however, from the nature of the case that it is difficult to determine actual responsibility unless eggs were to be entirely unpacked at the terminal. The railroads, according to dealers' claims, seem always to scale down the amount of damage from wetting of eggs, and report a smaller amount than that found by the dealer.

A New York dealer gives this example of discrepancy between actual damage and the obvious damage which was reported in a shipment involving 23 cases of eggs. Of these 10 cases were reported by the railroad to be in bad order, while the number of cases actually found to be in bad order was 13. While $3\frac{1}{2}$ dozen were reported broken, the total breakage was 48 dozen. The railroad also reported 4 dozen short, which was found correct, 2 dozen cracked, and 3 dozen stained. In the same shipment 109 dozen were reported to be wet, while 180 dozen were found actually wet. While the waste of eggs through breakage is heavy, the financial loss to shipper or dealer is still greater because this is not confined

to the eggs which are themselves broken. The content of the broken eggs spreads itself on to the others and makes it necessary to sell these as lower-grade eggs. A mold sometimes forms on the broken eggs, and this extends to the others. •

The greater part of the damage done to eggs while in the hands of the carriers would seem to be due to the switching of the cars at the terminal freight yards, one dealer charging at least one-half the damage to this cause. A Chicago egg dealer reports that his loss is less than that of others because he makes it a practice not to allow carloads of eggs to be switched about, if it can possibly be avoided, and employs only careful drivers. As an alternative he will go to extra expense for cartage. In one instance, where an exception to this practice was made, 80 cases of eggs were damaged, although the car had to be moved only two blocks. It was thought that with so small an amount of switching the risk might be taken.

New York dealers blame the egg breakage largely to the careless handling of the eggs at the docks where they are unloaded from the cars ferried across the river. In unloading, the eggs are said often to be treated very much as though they were pig iron.

It is claimed by some that the condition of the eggs shows that it is generally fresh breakage and therefore the result of switching in the yards or unloading at the docks and not due to bumping in transit. The loss in the switch yards and at the docks had a marked increase when the labor conditions during the war became critical and less skilled laborers were employed.

The rough handling of egg shipments sent by express is said to cause large quantities to be broken, and it is said to be very difficult to collect from the express companies for the damage. For several years the express companies have paid little or no attention to claims filed for such damage.

Typical of damage in express shipments are two recent examples given by a Baltimore dealer: In one case of eggs containing 22 dozen he found $4\frac{1}{2}$ dozen smashed and 1 dozen cracked. In another shipment of two cases, containing 60 dozen, $8\frac{1}{2}$ dozen were smashed and 3 dozen cracked. These represent 25 per cent and $19\frac{1}{4}$ per cent of damaged eggs. It is asserted that such damage is not due to inferior packing, since the damage seems to be worse in the heavy cases where the goods are well packed. In spite of the reported reluctance on the part of the express companies to settle for damage done to eggs while in their hands, it is said that on many shipments they pay out more for losses on eggs than the express charges amount to. A Newark, N. J., dealer exhibited the details of a claim for \$4.71 damages on one case of eggs which had come 50 miles with express charges of only 38 cents. Such a situation necessarily makes express rates generally higher than would otherwise be needed for reasonable profits to pay

dividends, and also tends to materially reduce the supply of eggs, through the waste of food, and therefore to raise the price in response to the demand of the consumers for the goods.

THE PILFERING OF FOODSTUFFS.—Although stolen goods are presumably consumed and therefore may not represent an actual waste, the theft of foodstuffs during transit constitutes a very definite loss to the owners of the goods, or to the railroads, if they settle for the losses occurring while the goods are in their hands.

Even though the total losses in the country from this cause do not constitute any appreciable percentage of the total goods transported, the number of complaints indicates that this evil is rather widespread. Some dealers assert that losses from pilfering, even though small, are sufficient to affect the prices of commodities when they reach the retailer. The individual losses are usually so small that dealers generally fail to file claims against the railroads, taking the loss in preference to the trouble of proving and collecting its amount. Yet the total during the year from this cause makes a noticeable reduction in profits for some dealers.

During the war the losses from pilfering increased, so that instead of being satisfied to steal small quantities the thieves took larger amounts, in instances whole bags of sugar weighing 100 pounds. Such thefts are generally thought to occur at the loading, transferring, or terminal points and are chargeable to the lack of proper terminal facilities where the loading and unloading could be under better observation and where there would be some better check upon those entering and leaving the vicinity of the cars. As indicating this conclusion, dealers state that they discover a basket or two missing from a shipment of peaches, or the top layer off of every basket of a shipment forwarded 50 miles from a large terminal market, yet the seals of the car are unbroken after being put on at the forwarding point.

This petty thieving is not confined merely to taking foodstuffs such as fruits, which are perhaps eaten at the time by the freight handlers and truckmen. Wholesale grocers report that much pilfering is done from boxes and cases which are then renailed. The loss in such case is not discovered until possibly months later, when the grocer can not make any claim for the shortage. Wholesale butter dealers shipping to retailers report that packages are broken open and part of the contents taken. Specific cases shown the representative of the Commission included 13 pounds of butter from one shipment and 7 pounds from a shipment the following week from a dealer in Springfield, Mass., to the same retailer and 3 cases of eggs from a shipment of 11 cases and 4 cases from another shipment of 15 cases arriving the same day for a dealer in Scranton, Pa., from two different shipping points. Even live poultry shipments seem

not to be immune from this danger, for one dealer reports that his losses by stealing are heavy because of lack of proper terminal market facilities. It is estimated that the losses from stealing at one Philadelphia terminal during the winter of 1917-18 amounted to between \$15,000 and \$20,000, the thefts being blamed to the laborers at the terminal and to truckmen and hucksters. A butter dealer in Harrisburg, Pa., stated that for weeks he had not paid a bill in full, due to the fact that in every shipment boxes had been opened, one or two prints of butter removed, and the lid renailed.

Section 9.—Difficulty in collection of railroad claims.

Shippers and dealers generally report that there is great difficulty and delay in collecting claims against the railroads and the express companies for damage and loss in foodstuffs during transit, and that in many cases they have found it impossible to obtain any settlement. A traffic official for the Federal Food Administration at one of the large markets, while at the same time asserting that one of the principal present-day troubles in marketing consists in the delay and negligence in handling by the railroads, summed up the matter by remarking, "A claim against the railroads for damage in transit at the present time has about as much value as Confederate currency." Others state that they seldom feel justified in invoicing a railroad claim at over 50 cents on the dollar, as the railroad companies fight the payment of claims "to the last ditch," demanding discounts and allowances when not refusing payment altogether. Claims submitted to the railroads are invariably reduced in amount even though the loss has been amply proven. Some dealers claim that if some shippers do not have this difficulty, it is because the claims are allowed in special cases as a form of concealed rebate.

Even such easily established claims as those for goods damaged in wrecks or lost in transit are often extremely difficult to collect. In May, 1917, a car of eggs was shipped from a point in Indiana to Boston. The car was wrecked on the way and a loss of \$799.48 was sustained by the shippers. Although the claim was promptly filed with the railroad, the only information which had been received a year and a half later was to the effect that the matter was being investigated. (See also p. 108 as to claims for South Carolina apples lost.)

The deterioration caused by delays, freezing, and failure to ice the cars properly forms the basis of many claims which are very difficult to collect. Out of a car of apples from New York to North Carolina, 75 barrels were frozen on the way, entailing a loss of \$265, for which the shipper has been unable to obtain any satisfaction. A fruit shipping concern in Oregon states that they have \$40,000 in unpaid claims outstanding against the railroads and that the cost of carrying this

money means that a wider margin between producer and consumer must necessarily be allowed.

Some dealers report that their claims against the railroads and express companies are eventually paid, but that the companies are exceedingly slow in settling. Settlements of claims are being given better attention under Government control.

Loss due to delay or to refusal to settle damage claims does not add any item to the estimates of loss and waste already discussed. But the refusal of the railroads to carry the expenses properly chargeable to transportation throws upon the cost of food this additional burden. Even if the railroads felt compelled to increase their freight rates by reason of settling these claims in full, the burden would be more fairly and evenly distributed than when as now it is thrown upon individual shippers and dealers.

Producers, shippers, or dealers can not, of course, shift individual losses falling upon them on to the consumers, since the general market price is fixed in great measure by relation of supply to demand, and all dealers have to conform to this market price level even if there is no profit for them. But when such losses are so general as those reported as due to transportation seem to be, the general market price is actually increased. This is because of the decrease of supply due to waste and because of the widespread element of risk which causes all concerned to add as much to the price as possible. They must do so in order to make such extra profit as will properly insure against loss on the entire business. There is also an additional charge for the expense of carrying the money during the long delays on such claims as are eventually paid by the railroads.

LOSSES AT TERMINALS AND MARKETS.

Section 10.—Multiplicity of terminal freight yards.

The multiplicity of freight yards, especially at the larger market centers, is one of the first flaws apparent in the terminal situation. Often each railroad company has its own freight yard; and the better served the city is from the point of view of competitive railroad service, the greater is the number of freight yards to which cars of produce may come, and the more widely they are scattered over the city. This results in great loss of time in trying to locate cars in the various yards, and in going from one terminal to another to inspect the goods, sell the produce, or attend to unloading or reshipment.

Nine railroads and 45 steamship lines bring most of the food supplies to New York, although only one railroad system has direct track connections into the great market district of Manhattan. All of these railroad and steamship companies compete in attempting to secure the most favorable terminal facilities, and then to monopolize

the advantages for their own benefit by excluding other lines from their use. As a result of such competition for location, the food products can not always be delivered to the best advantage. The consequent scattering of produce has been the cause of much trouble and expense. If a consignment arrives at a pier or terminal to which buyers are unaccustomed to go, they often refuse even to go and inspect the goods. The scattering of produce became greater during the war, and caused a great increase of cartage. When buyers are unwilling to go to unusual places to inspect shipments which the railroads have delivered there, the commission men must have the produce hauled to their stores in order to display it for sale. This cartage charge is in many cases passed back to shippers, who heretofore did not have such a charge to pay and who therefore are inclined to regard it as an unfair charge of the commission men.

Dealers and commission men assert that much loss and waste could be avoided if all of a certain kind of fruit or vegetable were delivered to a specified pier by the railroad and steamship companies. Buyers could then find a large assortment of any particular kind of goods at a convenient place. At present there is much loss because small quantities, insufficient individually to attract buyers, are sent to various points. An actual waste also results from inefficient handling of scattered consignments. Because of rivalry between the transportation companies such a plan has not been feasible, but it is urged that a system could be inaugurated whereby such expensive rivalries would be dispensed with.

Before the war there was some attempt to concentrate produce by having certain classes brought always to the same location. Thus the lemon trade in New York City insisted that all lemon cargoes be discharged at the Erie pier, where the auction sales are conducted. Dealers are not always able to get such fruit unloaded at this market, and then are compelled to bring samples to the auction center in order to make a sale. Southern potatoes were generally delivered at Piers 29 and 26 before the war; but during the war deliveries were made at Jersey City, at Thirty-seventh Street Yards, at Pier 4, at Pier 7, and at Pier 26, as well as at the Wallabout Pier in Brooklyn. A growers' organization reports that because of these scattered deliveries such poor results were obtained from the sales of potatoes on the New York market that production by the southern planters will be greatly curtailed until conditions are remedied.

Twenty-seven trunk lines enter Chicago. Practically all of these have distinct and separate terminal freight yards. Their distance from the great wholesale produce district of South Water Street varies from a quarter of a mile to two miles. The larger dealers may have cars arriving or departing by any number of these different lines, and for each such arrival or departure they must make separate

trips to different yards for inspection, for loading and unloading, and for cartage of the produce to and from the market district. For instance, poultry alone comes into Chicago at 17 different terminal points and is hauled to South Water Street where it is dressed. It is there sold for local consumption or hauled back to the terminals for reshipment. Inasmuch as all terminals are congested at times, so that there is much delay in getting the trucks in and out of the yards, it is evident that aside from the actual hours spent on the streets between terminals there is additional time consumed in waiting on the part of trucks, drivers, and helpers, as well as inspectors. The resultant additional expense is not a mere local one passed on to Chicago consumers.

Over 180,000 cars of perishable foods are consigned annually to Chicago, but nearly half of these are transferred and reconsigned to other points, especially to the eastern markets. The expense and waste incident to delays and difficulties of switching cars from the line on which they arrive to the line of departure from Chicago, and the value of the time lost in locating and inspecting cars at the various yards, constitute an important item in reconsigning cars from Chicago, and is passed on to the ultimate markets as fully as is possible.

Those merchants who sell directly from the cars or who sell the carloads on the tracks find the present system of scattered terminals a source of great loss and trouble. If a dealer or commission merchant has goods at a number of different terminals, he may need to take a prospective customer to several of them. On the other hand he may lose a customer altogether, for the latter may not be willing to make the trips if he can purchase at hand something which will answer his purpose and save the time of trips.

The problem is of even greater importance to the smaller markets, which are supplied in less-than-carload lots from the car-lot dealers of Chicago. Besides all the difficulty, expense, and waste in locating and unloading the goods to get them to the dealer's store in the market district, there is equal difficulty in recarting them and unloading them for consignment to dealers elsewhere.

St. Louis has, in theory, concentration rather than multiplicity and scattering of terminals. All cars coming into St. Louis from the West or into East St. Louis from the East can be brought by the tracks of the Terminal Railroad Association to its yard at Third and Carr Streets or to the yards of the Wabash and Burlington lines at Third and Franklin Streets. These yards are immediately across the street from the market houses of the wholesale produce dealers on Third Street. But because of delay in getting cars transferred, and often because of congestion in these near-by yards, many cars are not brought in; and in such instances dealers have all the difficulty inci-

dent to scattered and numerous terminals, several across the Mississippi in East St. Louis, Ill., and some in the city itself. As examples of minor expenses, a St. Louis poultry dealer has to send a dozen bags of feed for poultry at a freight yard five miles away in one direction and a similar quantity to another yard in the opposite direction, and the trouble and cost of icing cars are greater because of the scattered yards. A dealer may on a given day have three or more cars to ice in as many different yards separated by 20 or 30 blocks, and possibly another car across the river in East St. Louis, with no car near an ice plant. The cost of icing under such circumstances far exceeds the cost when all cars are at one yard.

The congestion resulting from the concentration of terminals at St. Louis indicates the magnitude of any attempt to provide the large cities of the country with single terminals. There is danger that in curing one evil another will be created. Large, well planned terminals with trackage arranged for the smooth and efficient handling of food traffic do not present an easy problem. But the solution would seem to carry with it the cure of many conditions that now make for loss.

In many of the smaller marketing centers multiplicity of terminals, with consequent trouble and expense, obtains in a greater or less degree. In Norfolk, Va., six railroad lines enter the city, each with its own terminal freight yards. Being fortunately situated for water transportation, the city ships and receives much produce by boat, and the docks add greatly to the number of terminals. Three railroads enter Charleston, S. C. Two of these roads own and operate a terminal road which connects with the tracks of all three roads, and switches cars to the wholesale district. But most of the produce houses are not reached by this terminal line, and practically all their shipments are unloaded at the separate terminals of the various railroads. Here also the number of terminals is increased by the docks to which water-borne shipments of produce are brought. There are four railroad terminals in four different sections of Jacksonville, Fla., as well as terminal docks on the St. John River. In Minneapolis, Minn., there are eight terminal yards from which all fruit and vegetables must be hauled to the central market district. These various terminals range in distance from a few blocks to nearly 2 miles from the market district. In St. Paul, Minn., there are eight separate freight yards. A few dealers have track connections at their stores, but even these men haul most of their produce from the terminals of all roads except that on which they are located, because the delay and difficulty in obtaining the switching of cars is greater than that of hauling. There are five freight terminals in Wichita, Kans., which are from 2 to 15 blocks distant from the wholesale produce houses.

In Hutchinson, Kans., there are three terminals; but since all important produce houses are located on the tracks and difficulties in switching are negligible, the number and scattering of terminals is of little importance in receiving or shipping carload lots. In the handling of less-than-carload lots, however, produce must be hauled to or from the terminals. In San Francisco there are at least eight points of unloading perishable foods, each separated from the others by a considerable distance, and no one of them is very near the produce market.

At several of the markets the dealers sell much of their produce from the cars at the terminal yards as well as at their stores. The number and scattering of terminals, therefore, causes not only increased difficulty and cost for cartage but also extra expense for the additional salesmen needed.

Section 11.—Lack of facilities at freight terminals.

The terminal problem is a difficult one in the handling of all commodities, but is especially important in regard to perishable foods, since every handling not only adds to their cost but also hastens deterioration and waste. In only a few cities are there terminals which have satisfactory facilities for loading, unloading, protecting, and removing foodstuffs with a minimum of damage and expense. The evil of inadequate and wasteful terminals seems greater in the large cities than in the small ones.

The cost of goods is increased just as surely by expensive and wasteful methods of unloading and handling them at the terminal yards as by delays or higher charges in transportation. Obviously any advantage secured by the best speed in transportation can be wholly neutralized by delay in placing and delivering cars, expensive and wasteful methods of unloading and handling the goods, and general congestion and confusion at the unloading tracks. There is, therefore, always a tendency to ship perishable goods to those markets which can handle them most cheaply, while those cities with the least adequate and most expensive marketing machinery receive a smaller supply in proportion to their need.

TRACK AND PLATFORM FACILITIES.—At some terminals there are not enough unloading tracks to accommodate the arriving cars, especially at the height of the seasons for marketing the most perishable produce. Consequently there is congestion in the outside yards and delay in delivery of cars. So great does this become at times that embargoes are laid upon the shipping of more produce to these cities, and producers and shippers are compelled to seek new markets for their produce. A representative of a large railroad system, testifying before the Mayor's Market Commission of New York City in 1913, said:

We have had to hold watermelons at Jersey City in the meadows 50 or 60 cars at a time until they could be accommodated on the tracks in Jersey City. * * * I have known cars to be held in the Jersey meadows a week or more. It is not a frequent occurrence, but it is an occurrence when we have a congestion as we have had every season for the last four or five years. All these delays tend to raise prices here and discourage the producers. * * * Where the cars are slow in moving the cars received first are put on the market first, so that, in the case of watermelons in the congested season, you will find for days and days, while fresh cars are arriving, the market is getting the older cars out of condition, and by the time the fresh cars get their proper position they are also out of condition. The delays here do not come from any other source but the lack of terminals. Our road is adequate and has no trouble except at terminals.

At the large cities most of the roads have both an outer and an inner freight yard. In the outer yard, which has switching and belt-line connections for transferring cars to other roads, there are generally adequate track accommodations for holding cars. But these yards are often so many miles from the produce district that several hours are needed for a single inspection trip. It is difficult to induce buyers to visit these yards and expensive to haul goods from them to the stores. At the inner freight yards the congestion is invariable. In addition to track-storage charges, there is constant pressure for the rapid unloading of the cars and removal of the produce, because every part of the unloading platforms is needed practically all the time. Where there is such confusion and congestion a great deal of time is lost in merely trying to locate shipments in the yards. A dealer who has branches in two cities stated that in a city which has good terminal-track facilities his firm handled in one day 54 cars of fruit and vegetables before 3 p. m., whereas it would require three days in the other city merely to locate that number of cars.

Equally bad congestion exists for the trucks and wagons attempting to get to the cars, unloading platforms, and piers. In some markets trucks must stand in line for hours to deliver an outgoing shipment or receive a load. It is reported that congestion at the piers in New York is sometimes so great that wagons have been wrecked and horses killed in the struggle for precedence among the truckmen. During the survey made by the Mayor's Market Commission in 1913 it was seen that, although the congestion was bad enough then, any extra strain upon the facilities would cause a breakdown of the New York distributing system. The conditions were not remedied, and in 1917 it did break down, because of the strain due to the needs of the increased population and the added requirement of accommodations for war exports. The congestion, confusion, and waste became extreme. The Director of Transportation of the Federal Food Board in New York stated that at least \$1,000,000 worth of foodstuffs went to waste during January, Feb-

ruary, and March, 1918, through lack of proper facilities for handling.

Dealers in some markets complain of the lack of platform facilities for unloading their goods. The railroads are unwilling to give up the trackage space which the platforms would occupy, although dealers assert that such platforms would so facilitate the unloading that a smaller amount of trackage would then suffice to accommodate the cars.

Considerable expense for a large force of salesmen would be avoided by the erection of good unloading platforms in those cities where much of the fruit and vegetables is sold direct from the cars. Cars of produce are not grouped at present and each dealer has cars in various parts of the yards at the same time. A salesman is needed for practically every car. In addition "lead" salesmen must be kept in the "lead" between the tracks where all the buyers and sellers congregate. With the erection of proper platform facilities for unloading and sale of the goods and the delivery of all cars for each dealer at one point, one salesman could replace four to six of those now required.

The tracks are not covered, so cars of delicate fruits and vegetables must be unloaded while exposed to varying temperatures. Fruits and vegetables are frosted in winter and wilted in summer, and the conducting of business in the open freight yards in all kinds of weather involves great discomfort to the men as well as causing a waste of goods. Because no facilities exist for properly exhibiting the contents of cars at the yard, produce is often unloaded and carted to the dealer's store, then later sold to some out-of-town purchaser and brought back to the same terminal for reshipment. This adds two unnecessary cartage charges to the cost of the goods. So much of the produce has to be unloaded in Chicago, hauled to South Water Street, carted back to the terminals and reloaded for shipment, instead of being handled at the terminal, that cities which normally would obtain supplies from Chicago are refusing to handle fruit shipped by South Water Street dealers. Their reason is that this extra handling spoils too much of the foodstuff. Therefore, under existing conditions, the trade with outlying and small-town jobbers can not be developed to its full possibilities.

In New York the facilities for display and sale are quite as poor. Except for cars arriving over the one railroad having rail connections into the produce district, the goods are generally brought across the Hudson by the roads on car floats and unloaded by hand trucks from the cars on to the piers. The space on the piers is insufficient to accommodate buyers, sellers, goods, and trucks. Great delays ensue, with inevitable expense and much spoilage of goods, because

the piers are not constructed to protect the goods from harmful temperatures and bad weather conditions during long delays.

An authority on municipal affairs places the blame for the growth of the large number of middlemen upon the general lack of order among transportation companies, the multiplicity of terminals, and the disorderly and congested conditions at piers and unloading platforms. The large number of jobbers and other middlemen became necessary in order to bring order out of chaos. As a result, three or four or even more middlemen collect toll after goods arrive and before they reach the consumers, adding greatly to the final cost.

WAREHOUSE FACILITIES AT TERMINALS.—Proper warehousing space at the freight yards to shelter the goods and to furnish warm or refrigerated storage for the preservation of perishable foods at the terminals is of vital importance. Nevertheless this is almost universally lacking. At some terminals there is no warehouse space. Cars of goods held for sale at the yards are iced in hot weather and stoves are placed in the cars as soon as they are opened in cold weather. But in spite of these precautions there is often a heavy loss from decay during too great warmth and freezing in extremely cold weather. In other cities the warehouse facilities may consist only of an open platform with a roof, affording absolutely no protection against inclement weather in the winter.

A more even distribution of arriving produce would be possible if suitable cold storage facilities existed at the terminals. On days of especially heavy receipts a part could be put away and held for an early period of shortage. Without such facilities a glut often occurs, produce deteriorates or becomes entirely spoiled and the prices received by the producer, shipper and carload dealer represent a heavy loss. A fruit dealer furnishes a typical example of the need for terminal storage facilities. He received 5 carloads of peaches on Monday, Labor Day. On Tuesday the market was glutted with peaches which had arrived on Saturday, Sunday, and Monday, and the wholesale prices fell heavily. The railroad and the food administrator would not permit him to leave the fruit in the refrigerator cars and hold it for a better market. So he unloaded the cars, trucked the peaches to his store, and obtained the best price possible, which made a heavy loss for the shipper. Had there been a cold-storage warehouse at the freight yard he would have stored the peaches for a week in order to sell at a reasonable figure when the market became normal.

Regulations during the war caused a more rapid unloading of cars and clearing of piers and platforms, but previously such goods as eggs and butter shipped to the large markets during the heavy producing season were unloaded on pier or platform and often allowed to remain for several days without protection against exposure

to high temperature. Under such conditions decomposition commences at once. Dealers in fruit and vegetables estimate that as much as 15 per cent of the goods go to waste during the summer months because there are no proper refrigeration facilities at the terminals.

Previous to war-time regulations, and in some markets during the war, the produce dealers were accustomed to hold the refrigerator cars from 1 to 4 days at the freight yards, as a makeshift for terminal warehousing. If proper facilities were provided, a dealer could have his car unloaded in two hours; and these especially equipped cars, of which there is such an acute shortage, could immediately be utilized for moving more perishable freight instead of standing idle for days at the end of each trip.

It is equally important to have heated warehouses during the winter into which fruit and vegetables can be immediately unloaded from the cars to prevent waste and loss by freezing. During periods of extremely cold weather produce trucked through the city from the freight terminals to the stores of the dealers is almost certain to be injured by freezing, whatever precautions are taken. Therefore dealers usually prefer to hold the cars, pay demurrage, and wait for warmer weather before unloading. This places a heavy expense on the dealer or shipper, holds cars idle which should be unloaded promptly and released for other purposes, and, if the freezing weather continues more than a few days, can develop an acute shortage of food in the city while the freight yards are crowded with cars filled with the articles desired. In the freight yards at Providence, R. I., during the winter of 1917-18 there were reported to have been 100 cars of potatoes paying demurrage at one time, waiting for the cold weather to abate. Many of the difficulties of transportation might be traced to this effect of the lack of terminal warehouse facilities.

During the especially cold weather of 1917-18 the loss from freezing of produce was enormous throughout the country. A part was due to freezing while in transit, but a large proportion of the loss and waste of food could have been prevented had there existed adequate warehouse facilities at the terminals.

In New York City during the month of January, 1918, a large amount of food was frozen. A considerable part of this was properly thawed out, and if used immediately thereafter was not unfit for food. But the amount on hand was too great to be all sold before the rapid deterioration which follows thawing. So the majority of this food was subsequently sent to the dump. The report of the supervisor of terminals, New York Bureau of Food and Drugs, stated that during that month—January, 1918—8,697,220 pounds of potatoes, celery, cabbage, turnips, onions, and other produce unclassified,

having a market value of \$262,308, were taken from various terminal piers to the dump, while 9,479,000 pounds of imported foods, valued at \$305,200, were condemned at the Brooklyn water-front piers and destroyed. These wastes were in addition to the reported dumping by the commission houses of damaged frozen vegetables to the extent of 3,322,000 pounds, valued at \$99,860. The total amount so destroyed during that month in New York had a market value of over one-half million dollars. Pittsburgh dealers estimate that the loss from freezing in the yards, in spite of stoves generally placed in the cars, amounts in zero weather to 10 or 15 per cent of the goods received, so that the actual amount of loss is not as great as that due to spoilage by the heat of summer, because zero days are few and the receipts at this season are light.

TERMINAL FACILITIES FOR VESSELS.—The wharves of the water carriers are similarly lacking in facilities for handling produce. Complaint is made that perishable fruits and vegetables are unloaded in all kinds of weather regardless of possible loss of the goods. The carriers' bills of lading are said to give them the right to do this without financial responsibility for the damage done.

Officials of the New York Board of Health state that millions of pounds of food froze on the Brooklyn water front during the winter of 1917-18, primarily on account of lack of facilities for handling perishable goods. There are very few heated piers, and these were often filled with nonperishable goods. The loss during that winter was extremely heavy because of severe weather, the waste during the first six months of 1918 being greater than that during the entire year of 1917. But the loss from freezing due to lack of proper terminal facilities at the piers is always heavy.

Some of the losses cited include 15,700 barrels of Almeria grapes out of one cargo, each barrel containing 45 pounds, which were frozen and were a complete loss; a cargo of 2,000,000 pounds of chestnuts which were a complete loss; and nearly all of one cargo of Spanish onions, less than 1 per cent being sold by city markets in small lots as frozen onions.

During the winter a cargo of lemons arrived, and the discharge of the goods from the steamship was started, although the temperature was below zero. As this occurred after the creation of the Food Administration, the consignee appealed to the Federal Food Administrator, who forced the steamship company to cease unloading while the weather was so extreme. Between 400 and 500 boxes of lemons had, however, been unloaded and these were a total loss. Two days later warmer weather arrived and the remaining 14,000 boxes on board were unloaded and were saved. Lemons of this quality were then worth from \$5 to \$7 a box. The actual loss in this case was from \$2,400 to \$3,500; but except for the interference of

Federal officials under war-time power the entire cargo, of a value from \$84,000 to \$98,000, would probably have been lost.

A few years ago a cargo of potatoes was discharged on the pier when the thermometer registered 2° below zero. The consignee even offered without avail to pay rental on the vessel in order to keep them on board for a few days until the weather should be more favorable. Unloading under such conditions resulted in practically a complete loss of these potatoes.

One fruit dealer states that in his estimation enough fruit is lost in New York City through negligence, which he blames chiefly on the steamship companies, to feed a city the size of Pittsburgh. Since his business deals chiefly with imported fruit it may very well be that he exaggerates the relative proportion of waste by ocean carriers.

Section 12.—Expense and loss in cartage.

The cartage of perishable foods adds to their cost both because of the expense involved and because of the deterioration which it causes. A distant producer is on a footing almost equal to that of one near by who drives to market by reason of the low railroad rate in comparison with the cost of trucking. It is estimated that a ton of freight can be sent by rail nearly 700 miles for the amount it costs to carry it 20 miles by horse-drawn conveyance.

Cartage is a factor constantly adding to the cost of any lot of goods. As the produce is taken by truck or wagon from farm or orchard to the local shipping point the cost and damage to the goods varies in proportion to the distance covered and the quality of the roads. Over good roads this cost is small and the damage to goods in a properly protected vehicle is negligible. But bad roads cause delay on the road, as well as bruising of fruit and breaking of eggs. At the larger shipping points where goods are concentrated there is generally no cartage necessary, because the shipping stations usually have track connections. In all terminal markets, however, cartage is an important factor.

The time required to transfer goods from one place to another is made up of three items, viz, the time required to load the goods on to the truck or wagon, the time required in transit from the point of loading to the place of delivery, and the time required to unload and deliver the goods. The time required to load the goods and to unload and deliver them varies greatly as between the different receiving or delivering points and also, especially in the larger cities, as between the different times of the day at the same point, according to the extent of the congestion. The time in transit also varies at different times even over identical streets, depending on the traffic conditions. In the crowded streets of the larger cities vehicles must often

move in continuous lines, one behind another. Therefore the speed of a vehicle is often limited by that of the slowest in front. In the districts traversed from the terminals to the stores of the wholesale produce dealers and commission men the streets are seldom all wide enough to permit separate lines of slow and of fast moving traffic, by which the capacity of the street could be increased and greater speed in delivery assured. Therefore, the cost of cartage from the terminal freight yards or piers to the warehouses or storerooms of the produce dealers varies greatly as between the different cities. The variation in facilities at the freight yards for unloading the cars and loading the trucks and wagons must be considered, also the number and scattering of the terminals, the width of the street, and the distance traversed from terminals to the produce district, and the amount of congestion in the produce district itself. The cost of hauling each load also varies in accordance with the variation in time required to unload, transport and deliver.

In some cities the truckmen fix cartage charges so that the dealers pay regular fixed rates by the package for certain distances or within certain zones. These are based upon the general experience of the truckmen and the produce dealers as to what will give a proper return under existing conditions. Under this plan the shipper or dealer knows the hauling cost in advance. All charges are high enough to provide insurance against excessive delays or difficulties in the case of certain loads, and such excess costs are distributed over all produce handled. In the fall of 1918, for example, the price for cartage in New York from piers to dealers in the produce district was $12\frac{1}{2}$ cents per barrel of potatoes and 10 cents a bag for onions.

Where this plan is not followed the cost of delay in hauling certain loads may be so great as to eliminate all possibility of profit and show a heavy loss on a shipment. For instance, if a truck costing \$7 a day has to wait three hours, one-third of its working day, for a load of 2 tons of cabbage with a market value of \$5 per ton, there is added to the cost of the cabbage 23 per cent of its value merely for the waiting charge. This waiting charge for a load of more valuable goods would be proportionately less important. The same waiting charge for a load of oranges would normally cause an addition of not more than $1\frac{1}{2}$ per cent, while for potatoes it would add a cost of about 5 per cent of the value.

Under the most favorable circumstances there must be an item of cost for hauling at some point or points between the railroad terminals and consumer; but any hauling cost which experience shows can be avoided may well be treated as a loss to those concerned and especially to the consumer. In some of the markets the car-lot receivers, wholesalers, and jobbers, are so located that the cars of produce are brought to their doors and unloaded directly into their

warerooms. In practically all markets some goods are sold directly from the cars without transfer to the receiver's warerooms. The only hauling cost in such case is that for transporting the goods to retail dealers, which is in general no greater than when the wholesalers are farther from the terminals. Hence it is apparent that any cost of loading the trucks, transporting the goods from terminal to wholesaler, and delivering the goods at his store may be treated as an avoidable cost under the best terminal and market conditions. Cartage from car-lot receiver to wholesaler or jobber, or from one wholesaler or jobber to another, would be an equally unnecessary expense under the best conditions. Yet as produce changes hands from one wholesale dealer to another, it is often carted several times from various public or private warehouses to others across the city, each haul adding to the cost and further exposing the produce to deterioration. Accurate figures about the cost of such hauling are generally unobtainable, since even those dealers who keep careful accounts of their various operating expenses carry under cartage the cost of deliveries to retailers as well as hauling from and to terminals and deliveries to other wholesalers and jobbers. Unless there are serious inequalities in location between various dealers, they are inclined to consider cartage an unavoidable item of expense and not worth any special attention.

A study of cartage costs of representative wholesale dealers in fruits and vegetables of Chicago, Indianapolis, Detroit, Cincinnati, Columbus, and Louisville indicates that cartage from the terminal amounts to not less than 1 per cent of the gross sales. The cases where the figure fell below 1 per cent were chiefly in the case of car-lot dealers who sold directly from the cars, and where the figure was much higher it was usually found that delivery to retailers had not been altogether excluded. It seems that a minimum of 1 per cent can safely be assumed where the goods are handled only once between the terminal and the warehouse of the dealer distributing directly to the retail trade. This 1 per cent minimum will be increased by resales between dealers in the same general class, sales between wholesale receivers and jobbers, sales between jobbers, and sales by firms collecting in one wholesale market and shipping to another. Often there is also unavoidable unloading and cartage of car-lot produce into cold-storage houses not having track connection, to be followed later by cartage from cold storage to the dealer's store.

Goods brought to the smaller wholesale markets have often already had the expense of two or more cartage hauls in a larger market. For instance, wholesale dealers in such cities as Harrisburg, Pa., usually purchase their fruits and vegetables in Philadelphia, Baltimore, and New York. Before such purchase the goods often have been carted in those cities from the terminal to the dealer's store, and

after purchase the Harrisburg dealer pays for cartage to the terminal in the larger city and then from the terminal in Harrisburg to his own place of business.

It would be an extremely complicated matter to trace the cartage expenses connected with each lot of goods through each wholesale market and between dealers in any particular market, but that method would be the only one whereby an accurate figure as to cartage costs could be obtained. Wholesale grocers report the expense of cartage as high as 25 per cent of the total cost of doing business, although their loss from deterioration and breakage during cartage is comparatively small.

In addition to the expense of cartage every haul of perishable foods is the cause of some shrinkage, breakage, and waste of the goods. Every handling in loading and unloading injures the food-stuffs and all exposure to the weather during trucking is harmful to some degree. Careless handling causes the breaking of packages and waste of contents. This is an important item in the large breakage of eggs in transit as well as in the bruising of fruit. Some dealers estimate the loss from cartage and rough handling in the case of such fruits as apples and peaches to be from 5 to 10 per cent, most of the damage being charged to the loading and unloading. The damage both to delicate fruit and to eggs is increased by rough riding over poorly paved streets, and the deterioration of goods in trucking is greater when there is a lack of proper protection. Some of the teaming concerns have conveyances with proper tops and side curtains to protect the goods from direct exposure to the sun or to storms, and these give some protection against freezing or overheating. Such protected conveyances, however, are not in general use.

New York exhibits losses and wastes from cartage in a rather marked degree. At the present time most of the cars of produce come in on the New Jersey side of the Hudson River and are brought over to New York on lighters. The goods are dumped on the dock, often carelessly handled. The consignees are notified and send their trucks, which are loaded at the dock. The produce then rides many miles to wholesalers and jobbers scattered all over the city and is again unloaded at their establishments. The wholesale districts of Harlem and the Bronx are 8 or 9 miles from the Canal Street market district and much produce is carted the entire distance. The expense of this handling and the deterioration due to heat, cold, and rough handling is considerable. One New York dealer in dressed poultry and eggs states that with properly equipped terminal markets he would save between \$40,000 and \$50,000 on cartage charges alone, while there would also be important avoidance of deterioration. Even goods coming in on the New York Central lines through upper New York are carried to the same general district and then carted

back. Every year millions of dollars worth of food is thus hauled all the way to lower Manhattan by the railroad, only to be carted back again at great expense, even as far as Harlem and the Bronx. Similarly, produce, fruit, and vegetables are brought to Wallabout Market in Brooklyn by trucks from the piers along the lower west side of Manhattan or even from the Jersey City yards. Wholesale grocers, as well as produce men, are compelled to cart their goods from the Hudson River front to their stores, and in many instances to cart them back again. Such dealers sometimes assume that if they are as well situated in this respect as their competitors, the expense incident to the situation is negligible. It is the more important to the consumer, however, since any expense of marketing which bears equally upon the entire trade is more certain to be added to the cost of the goods and so shifted to the final purchaser.

The congestion at the piers and in the streets is so excessive as to add greatly to the cost of cartage in New York, both on goods entering and goods leaving the city. One teamster is reported to have had trucks in the line as long as three days before they could be unloaded. Labor has been very expensive and hard to obtain, so it was necessary to keep his men on full time in order to hold them, because he could not go out and pick up men every time he needed them. On account of the congested situation during the war such charges appeared on his books as \$5 a cask for teaming 45 casks of oil from Pier 36, Brooklyn, to the Baltic Terminal. One of the independent meat-packing companies paid \$91 in one week for waiting time for unloading one car of beef. This was in addition to the regular trucking charge. A broker dealing in imported fruits reports that on a case of peanuts from Japan he paid for cartage from the steamship pier to the railroad terminal more than the freight from New York to Boston, while the cost of carting lemons from one pier to another was more than one-half as much as freight to New Orleans by the Morgan Line steamers.

While in Boston the length of hauls from the terminals to the stores of the wholesalers is never so great as some of those in New York, the congestion at the terminals and more especially in the market district is most serious, causing almost as much expenditure of time as do the longer hauls of the other city. This is especially true in the summer when perishable fruits and produce are being received. Practically all the southern produce, and some of the western, comes over the New York, New Haven & Hartford Railroad and, as stated in the report of the directors of the Port of Boston, "Every bunch of asparagus, every basket of strawberries and peaches has to be teamed from the New Haven yard to the market district." It sometimes takes a whole morning to make one trip from freight yard to market. The loss and added cost under

present conditions are very great, and have made some shippers of perishable goods disinclined to send goods to Boston.

The congestion and the street blockades that occur through every truckman trying to get ahead and save as much time as possible in getting his load to its destination where it can be unloaded and sold are not to be easily described. A commission merchant reports that trucks have taken 20 minutes to one-half hour to get from the custom house in Boston to his store, not more than one ordinary city block. Another dealer states that sometimes it takes two hours to get from the custom house to his store, not over three blocks away. The effect on the goods of such delay in the ever-varying Boston climate, especially on a hot day, is very detrimental.

The report of the directors of the Port of Boston, issued in 1915, says, regarding cartage and its cost:

These markets have neither direct rail nor water connections, and every pound of material must be teamed to and from them. It costs \$1 per ton to team meat, poultry, butter, and cheese from car to market; 3 cents for each lamb; 12½ cents for each barrel of provisions; 5 cents for each barrel of vegetables; 2 cents for each bushel of potatoes in bags; 4 cents for each box of oranges; 5 cents for each box of lemons; and 3 cents for each case of eggs. This, in the aggregate, amounts to hundreds of thousands of dollars in a year, which, if the material could be unloaded directly from cars into the market, would be saved.

In Chicago the very large number of terminals scattered about the city add a problem not present in New York, where all important terminals are in the same district; nor in Boston, where most of the produce comes into two terminals. The hauls by truck vary in length because of this multiplicity of terminal points, and do not all follow the same route but require more vehicles than for a single terminal. Practically all produce is carted to the crowded district at South Water Street where all the evils of congestion are present. Produce from roads entering Chicago on the south is trucked across the badly congested loop district and often after sale is carted back again for shipment to some out-of-town purchaser.

In Pittsburgh a number of the produce dealers are located in the Pittsburgh & West Virginia R. R. terminal and have no cartage on goods coming into this terminal. But there is an extra cost for cartage of goods coming in at other terminals, averaging about \$1.30 a ton on butter and \$1 a ton on eggs. One dealer estimated the extra loss from breakage due to trucking over the street at about 1 per cent.

To dealers not located at the terminal the cartage situation is much the same as in other markets. There is congestion and delay,

cartage back again to terminals for shipments out of town, exposure, breakage, etc.

Cartage in Washington, D. C., is an important item under present conditions. No goods are sold from the cars at the terminals, all are brought to the stores. Formerly it cost 4 cents per barrel for drayage from the yards of the Pennsylvania Railroad and 5 cents from the Baltimore & Ohio. Now it costs 10 cents. The handling and the length of the haul (from 1 to 3 miles) cause considerable loss. Especially has this been true during the war when labor was scarce and inefficient. The waste from this source in the case of apples and peaches is reported to be from 5 to 10 per cent. Dealers estimate that expenses of \$15 to \$30 a car would be saved if cars could be unloaded at the door of their stores, while a large actual waste would be prevented. A dealer in bananas asserts that drayage is so expensive and causes such deterioration in his goods, especially in low temperatures, that he could afford to sell bananas from the car at 10 cents gross profit per bunch.

Fruit and produce dealers in New Orleans estimate that the waste to perishable foods by reason of handling and carting them from the cars to the wholesale houses and repacking and reshipping them amounts to at least 5 per cent. One concern doing a business of \$800,000 is under an annual expense of \$11,000 for carting its products to and from the freight terminals, or about 1.4 per cent of total sales.

In Memphis most of the produce dealers have railroad tracks to their stores and hence have no cartage on carload lots. On less-than-carload lots they are under expense of cartage from terminals. One such dealer who handles about 1,000 cars a year estimates that he saves at least \$8 cartage per car by being on the track. His expense for carting less-than-carload lots, incoming and outgoing, amounts to \$3,000 annually, but he includes in this a certain amount of city deliveries to customers.

The produce dealers in San Francisco have found the problem of cartage so serious that they have made some effort to reduce its amount. An attempt was made to secure a railroad spur on one of the streets adjoining the market district, and for a time it seemed as though this would be successful. However, the teamsters, presumably because they felt such a project would reduce the amount of their business, fought the granting of a city permit and prevented its issue.

Dealers in that city state that the present cost of cartage on a carload of peaches is \$33.60, whereas at a terminal market a car could be unloaded at a cost not exceeding \$5.

Section 13.—Lack of adequate warehouses.¹

Facilities for storage under proper conditions are very essential to the food supply of the country. Some goods in certain climates require no more than mere warehouse space for ordinary protection against rain, sun, and vermin. Others need special temperature to prevent rapid deterioration. During extremely cold weather fruits and vegetables must be secured against freezing by the use of heated storage space. But the most important form of warehouse for the everyday food supply is cold storage. Refrigeration is necessary for holding goods from the season of surplus production to the season of little or no production in order to equalize, as far as possible, the supply and prices throughout the year. It is quite as essential for preventing deterioration in the ordinary passage of goods from the producer to the consumer. Nearly all the perishable foodstuffs eaten have been in cold storage for a few days at least. For instance, as soon as butter is made at the creamery it is put into a cooler; it is carried in a refrigerator car to its destination, where it is placed in a cold-storage warehouse or in the private refrigerated rooms of the wholesaler, and it continues under refrigeration at the store of the retailer and in the home of the consumer. Even the short periods of time when butter is not under refrigeration, as when it is being carted, may cause deterioration if there is undue delay because of terminal congestion or street blockades.

In order to care properly for the different commodities, the efficient cold-storage companies provide rooms of several different temperatures, so that goods which would be injured by freezing are merely chilled, while others are placed in a freezing temperature. Most fruits and vegetables need to be kept in a temperature of about 35° F.; sweet potatoes at about 50°; eggs at about 29° to 32°, as they freeze at 28°. Poultry and other meats must first be frozen at a very low temperature and then held at about 25°, if they are to be kept for a long time. Although butter in storage is ordinarily held at a temperature about zero F., it may be kept in good condition at a temperature considerably higher.

To prevent loss, it is necessary that the proper temperature be maintained, without undue fluctuation. If the temperature of a room containing fruit or vegetables falls below the freezing point, the goods are injured. If it rises above 40°, fruit tends to ripen rapidly and decay, while other perishables deteriorate and spoil. The system of ventilating storerooms and the manner of handling and piling goods are factors for the preservation or deterioration of the perishable foods.

¹ See Part IV, Chapter II, Sec. 19 of the Commission's Report on the Meat-Packing Industry for additional study of the cold-storage problem.

Proper refrigeration is a daily necessity even for food of the kind which can not be carried from season to season, or is not desired to be so carried. When food is shipped into a big city by railroad or steamer, the receiver must often put part of it immediately into cold storage, selling fresh only what he can dispose of immediately. This is especially true of surplus stocks of such perishable products as melons, peaches, berries, or lettuce, which often come into a market in such quantities as to cause a glut. When they arrive in good condition, they can be kept for several days if transferred at once to the cold storage, and can be sold at a fair price as soon as the demand equals or is greater than the supply. Such gluts frequently occur in every market during the summer months, while heavy shipments arriving on Saturday or just before a holiday make refrigeration absolutely essential if the goods are to be carried over without loss.

In all the larger cities some of the heaviest handlers of perishable foods have considerable refrigerator space in their store building, while some of the other dealers have enough for their everyday ordinary demands. Practically none, however, has sufficient cold-storage space to care for his goods when through unforeseen circumstances he has an extraordinary amount to care for. The average dealer would find the cost of equipping his store with such facilities and operating them when they are not regularly required an unnecessary expense and loss. Therefore many wholesalers must depend upon the public cold-storage companies which can furnish facilities to the various dealers and different classes of goods as they are needed. Since they operate regularly a large storage business, they can furnish the space and service at a lower cost than the average dealer could provide them for his occasional need.

Of equal, if not greater, importance is the existence of adequate and properly operated storage for holding perishable foodstuffs for long periods of time. It is only by the aid of such warehouses that surplus food from times of heavy, or "flush," production can be carried over to the time of little, or "scant," production, and so furnish an adequate supply at reasonable prices when otherwise the demand would be great and the goods almost entirely lacking. One large dealer in perishables says, "It is just as important to have a reserve supply of perishable goods, well cared for, kept in good condition, as it is to have a reserve bank with a reserve supply of gold and credit."

When there is a large available quantity of goods held by many dealers in cold storage, there is less opportunity for speculation in foodstuffs and the forcing of an abnormally high market price. But if the supply in storage is short the demand will force prices up and there arises a strong incentive for the owners to hold back their goods for still greater returns.

INADEQUATE AMOUNT OF STORAGE.—There is a very general lack of adequate storage warehouses throughout the country. Several cities have absolutely no public cold storage for the use of dealers in perishable foods. This prevents them from intentionally bringing into the city a larger supply of goods than they are certain of immediately selling; furthermore, it is the cause of much waste of food products when an oversupply exists. In some cities there is a lack of adequate common dry storage space for such commodities as potatoes and no storage whatsoever which will accept onions for storage.

In many cities the supply of public cold-storage space is sufficient to meet only a small proportion of the demand from wholesale produce dealers. This inability to get all the space needed results in waste of food and a loss to dealers and consumers, while the price charged for carrying those goods which are stored tends to be excessive and adds to their cost an item which, so far as market conditions permit, is passed on to the consumer.

The existence of proper storage warehouses throughout the country would tend to prevent congestion of foods in certain markets, because growers or dealers would be able to move their products and distribute them to different markets according to the demand. Also the knowledge that there was a quantity in storage on the same market would prevent local dealers from asking exorbitant prices when the supply on the open market might be limited. At present the shortage of space in some cities causes dealers to place quantities of their produce in cold storage at distant places, and thus to contribute to the creation of a shortage in markets whose supply could otherwise be adequate.

Because of the lack of adequate cold-storage facilities, dealers can not hold such produce as butter, eggs, and poultry, but must carry only such quantity as can surely be disposed of at once. A heavy loss is occasionally entailed through the presence of too great a supply or a decrease in demand and consequent deterioration of the goods. The large meat packers of Chicago generally have their branch houses well equipped with refrigeration, and this is a factor in causing the produce dealers in some cities to lose the entire butter, egg, and poultry business to these firms. The shortage of cold storage may cause a special loss to the retailers, since they often buy products which appear in good condition but which quickly spoil for lack of previous proper storage.

Large dealers in celery report that because of limited space the storage houses dislike to give them proper space for ventilating between tiers. This necessitates placing the bunches of celery as close together as possible, often causing deterioration and serious losses. The difficulties vary greatly with the seasons. When the apple crop is large the coolers are usually full of apples, and it is found almost

impossible to obtain any storage space for the celery. If any is secured, it is so undesirable that the dealer would not attempt to use it had he not already purchased the celery. Because of this difficulty, dealers assert that they are discontinuing its purchase and storage, which will create a shortage and increased prices to the consumer.

The apple crop uses a considerable amount of cold storage. It is harvested in about 100 days, and one of the large fruit exchanges reports that about 85 per cent of boxed apples go into cold storage for a long or a short period. Recently it has been difficult to find the needed space.

Lack of proper storage is often the cause of congestion on the railroads, because the receiver is unable to give the produce proper care and desires to hold the cars in lieu of storage space. A broker in Philadelphia reports that the difficulties of getting proper storage space and the congestion at the terminals were at times such that cars lay several miles out on the tracks for 30 to 40 days before they could be unloaded.

The Hon. Joseph A. Conry, former Director of the Port of Boston, who has given considerable study to the marketing of foods, says:

Millions of dollars worth of perishable goods are grown each year by the people of America and then permitted to go to waste because of the lack of proper storage facilities at reasonable rates. This loss touches every family in the land. The farmer or grower of the perishable goods loses the money he should receive for his produce, the railroad loses the freight income, and the consumer loses the goods both as an article of food and as a factor of competition. The goods lost being removed from the market, the remaining articles, of course, take on an increase in value.

INEFFICIENT, INSANITARY, AND POORLY LOCATED STORAGE.—It is necessary not only that there be adequate storage space but also that the warehouse conditions shall be correct and the service efficient. Perishable goods must not only be handled carefully and placed under the proper temperatures promptly, but must be held under right conditions.

But complaints from several cities indicate that many warehousemen either do not take their trusteeship seriously or are lacking in the ability to conduct a plant efficiently. Products which are stored merely to be kept cold are allowed to freeze and thereby become a total loss, or a room filled with frozen meat or poultry will not be kept at a sufficiently low temperature. Undue fluctuation of the temperature is naturally detrimental and a cause of loss, and there are complaints of loss and waste from such causes. Sometimes the loss may fall on the owners of the warehouse, but where they have a virtual monopoly they are often arbitrary and refuse to pay the damage, intimating that if complaint is made or suit started they will not allow space again to the dealer. Wholesale fruit and vegetable deal-

ers in San Antonio, Tex., say that goods will not keep in such cold storage as is available because proper temperature is not maintained and storage is too wet for ordinary fruits. In numerous cases the goods have been such a total loss as to be thrown away. One dealer states that his loss is from \$200 to \$300 a month because of this, while another estimates his spoilage at 25 per cent.

Equally important in the case of fresh fruits and vegetables is the matter of ventilation and the placing of the goods so that there is sufficient circulation of air about them. As pointed out above fresh fruits and vegetables piled close without adequate ventilation tend to deteriorate by reason of the carbon dioxide they throw off. Some dealers report serious losses through inability to get sufficient space for proper tiering of the goods and correct ventilation.

Storage plants are not always kept dry, clean, and sanitary, and some are even infested with rats and other vermin. One dealer reports that his losses from rats and mice in storage warehouses have constituted an item of considerable consequence. Under such conditions the storage is resorted to by produce dealers only when it is so absolutely imperative that the loss from lack of storage would be even greater. But the goods damaged in such inefficient, insanitary storage, and those spoiled because there were no proper storage facilities for them, constitute a heavy yearly loss. Most of this could be saved, to the benefit of dealer and consumer, if there existed adequate, properly managed, storage facilities.

The location of the storage warehouse facilities is also an item of importance. If it is located at the produce freight terminal with a spur track to its door, it is convenient for the prompt placing under refrigeration of produce unloaded from the cars. There is no expense for trucking from terminal to warehouse, and cartage in that market may be avoided on such goods as are sold and shipped out of town. But the dealer who has occasion to withdraw his goods from storage in small quantities day by day is under constant expense for hauling these lots from the warehouse to his store. If, on the other hand, the storage plant is located in the market district, there is the expense of trucking all goods from the terminal; but the warehouse is convenient for the daily withdrawal of the foodstuffs as the conditions of supply and demand require.

In some cities the storage facilities are so inconveniently located at a considerable distance from the produce district that this is a serious handicap to the business. The expense of extra carting is so heavy as to add greatly to the cost of the goods; and the deterioration in hauling back and forth is a factor of loss. So great is this expense and waste that in some cities with adequate refrigeration facilities the dealers do not take advantage of them so much as their business really requires. Thus the poor location of the plant not

only adds cartage expense to the cost of the goods stored but is indirectly the cause of actual waste of goods which would have gone into storage except for the expense of it.

EXCESSIVE CHARGES AND DISCRIMINATIONS.—Except in the larger markets, there is seldom more than one adequate, carefully managed, cold-storage plant in each city throughout the country. The tendency of such a monopoly is to charge what the traffic will bear. While there is a point beyond which this can not be carried if business is to be secured at all, private owners of public storage plants are primarily actuated by a desire for profits. So they make their charges for storage such as to bring them large returns. The proprietors of warehouses prefer to deal with customers leasing a large part or all of the space, especially when the customer consents to pay a high price, which he can soon pass on to the consumer. This tends to make it still more difficult for the small dealer, or the fruit preserver who wishes to hold fruit in storage, to continue in business. The same tendency prevails to demand high storage charges for ordinary dry storage where this is inadequate.

Even in the large cities where no one storage company has control of all facilities, the supply of storage space is so inadequate for the demand that those desiring to use it are charged excessive prices and subjected to burdensome rules and regulations. This shortage has been especially marked since the beginning of the war. Even in such large centers as Philadelphia and New York it has frequently been impossible for dealers to get any sort of public storage. The rates have been advanced, the accommodations reduced and small lots entirely discouraged. A Philadelphia merchant reports that for 5 or 10 boxes of dried fruits he finds it necessary to pay for the perpendicular space as though he had enough boxes to pile to the ceiling.

A flagrant case of arbitrary action in granting or refusing space is furnished by a cold-storage company in one of the medium-sized cities. Some concerns are unable to obtain any storage space, which has caused the loss of much produce that could have been saved with proper facilities. One fruit dealer, who handles about 2,000 barrels of apples during the season, is compelled to store them in a warehouse 30 miles away. Other concerns state that they can obtain space only by accepting whatever treatment is accorded them and making no protest. Dealers whose goods have been spoiled by negligence or improper handling while in the storage plant jeopardize their chance of ever getting space in the future if complaint is made or suit filed. For instance, one such suit was in progress at the beginning of a storing season, and had to be abandoned in order to get space for the new crop, as there was no other space to be found. Another dealer states he was flatly told to withdraw his

complaint and take with a smile such treatment as he received, or no more of his goods would be given space. Until recently this storage company would not accept anything to store from independent fish dealers, presumably because they were at that time supplying brine to the Booth Fisheries Co. From its point of view the company was apparently fully justified, since the manager of the Booth company broke off relations with the storage company and put up his own brine plant at considerable expense, after the storage company had been finally forced to give space to the fish dealers. Although dealers assert that this warehouse had ample space unoccupied, the charges were raised in the spring of 1918 from $\frac{1}{4}$ cent to $\frac{3}{4}$ cent per pound, with 60 days fixed as a minimum period for which space could be purchased, whereas previously it had been 30 days. Often space is not wanted for such a long period, but the full time must be paid for whether it is used or not. This again adds considerably to the total cost of the goods. The dealers seem justified in their assertion regarding the sufficiency of space in the warehouse, since the schedule filed with the Federal Trade Commission by this storage company shows that approximately only 1,780,000 cubic feet of its 2,502,000 cubic feet of space were being occupied on July 31, 1918. This included 500,000 cubic feet leased to the Depot Quartermaster, United States Army, and also the space required to store 2,000,000 pounds of butter and 2,000,000 pounds of meat for the United States Navy.

Another case brought to the attention of the Commission's representatives, wherein an artificial shortage of storage is created, is that at Waterbury, Conn. The only public cold-storage plant in Waterbury was owned by Valentine Bohl & Co., 594 West Main Street. It is a good-sized plant, not far from the railroad, and reached by a spur track. The firm had financial difficulties, becoming insolvent, and the Waterbury National Bank took over the plant and sought a purchaser. As Armour & Co.'s branch house had no railroad connection this property was desirable enough for it to make the highest offer and obtain the plant. When Armour & Co. purchased this property on April 13, 1918, parts of the plant were occupied by The Cudahy Packing Co., which had a lease running to June, 1921. When warm weather came and the usual requests for the use of the vacant storage space were made by local produce dealers, all accommodations were refused, and those who needed cold storage must get it in other cities. As a result the dealers are greatly handicapped and under extra cost of doing business. It can not be claimed that Armour & Co. and The Cudahy Packing Co. use all the space for their own needs, since on July 31, 1918, Armour & Co. was using approximately 5,000 cubic feet and Cudahy's leased space amounted to 38,993 cubic feet, while the plant has in all 161,380 cubic feet of space.

STORAGE FACILITIES IN CERTAIN CITIES.—In New York City the storage facilities in normal prewar times were adequate. No dealers report inability to secure space in those days, although at the end of the storing season they sometimes had to make requests at several places before getting all the space they desired. During the war so much produce was brought to New York to await shipping space that there was a serious shortage. There is, however, a great lack of warehouse facilities in connection with the railroad facilities. Goods have to be trucked into and out of many of the warehouses in Manhattan because they have no railroad connections. This adds to the expense of handling the goods and to their deterioration.

Cold-storage facilities in Chicago have been quite inadequate during the period of the war. Dealers state that previously there was sufficient space, inasmuch as it has been the custom of the packing houses to rent to the produce concerns such cold storage as they were not using themselves. Under war conditions the packers seemed to be using all they had themselves, and also securing space in outside warehouses as well. This has made it very difficult for fruit, vegetable, and produce men. Chicago, as a great distributing center, is called upon to carry in its warehouses large quantities of goods for western shippers and for purchasers in eastern consuming centers who have little or no local storage facilities and therefore leave the goods in Chicago until needed.

Practically all produce dealers and wholesale grocers unite in declaring Philadelphia warehouse facilities inadequate for the business conducted in that city. Dealers report that they are refused cold storage and compelled to use ordinary storage to the detriment of their goods, and that in the busy season of storing they have been unable to get even this ordinary storage to the extent required. Some dealers have been unable to get space at any price. Those who do get space find that the storage charges have been advanced, the accommodations reduced, and small lots of goods entirely discouraged.

Dealers in Boston do not complain so much of lack of sufficient storage as do those in other cities, although they state that the facilities are inadequate. But some of them remark that any move which would give Boston more space so that it could compete with the already existing warehouses would be of benefit as forcing a reduction of excessive charges and burdensome rules and regulations. The Boston Terminal Refrigerating Co. is controlled by Armour & Co., which owns the entire issue of common stock. The Quincy Market Cold Storage & Warehouse Co., whose warehouse is that principally used by produce dealers, is controlled by local men. There is no cold storage at the terminals of the New York, New Haven & Hartford Railroad. All goods arriving over this line must be carted

to the produce market district and be sold as soon as possible or carried to the storage plant.

Among Baltimore dealers there is a sharp division of opinion about the adequacy of the storage facilities. A few stated that facilities were ample even during 1918, but most report that since the war they have been taxed to capacity, and prices for accommodations have been extremely high. There are four good-sized warehouses owned by railroads, as well as two public cold-storage plants. One wholesale fruit dealer reports that he is frequently told by one plant that it has no space, while the other will not rent space for oranges and lemons at all.

In Buffalo the difficulty seems to be not lack of space, but rather a monopoly in the hands of arbitrary management. Several fruit and produce dealers report difficulty in obtaining room, even though there is unoccupied space. Any dealer whose goods have been damaged in storage is forced to drop his complaint or be refused space in the future. Much produce which could be saved with proper facilities is lost through inability to secure space. Some dealers are forced to store their goods at points outside of Buffalo. Storage charges were raised 300 per cent in the spring of 1918, with the minimum period for which space could be purchased changed from 30 to 60 days. This period is longer than many dealers require and adds considerably to the cost of the goods.

At most of the terminals in Pittsburgh there are no adequate warehouse facilities. Cars held for sale are kept iced in the freight yards in hot weather, while stoves are placed in them during freezing temperature. There is no refrigerated space for rent in the produce section of the city, and any goods to be stored under refrigeration must be carted to other parts of the city. This is seldom done because of the expense involved. As a consequence of this unsatisfactory situation, the supply of goods on the market varies greatly. One day the market is bare, with high prices; the very next day it may be overstocked, with low prices. It is evident that proper and adequate storage facilities would bring about a large saving of produce and cause more uniform prices.

All dealers in Harrisburg, Pa., state that there is need for additional cold storage in the city, so that certain goods could be carried for a while in case of an oversupply. At the present time there is no such space available for rent, and very few dealers have any coolers of their own.

Warehouse space in Wilmington, Del., is not only limited in quantity but very poor in quality. There is but one properly conducted cold-storage plant in the city, and it is sufficient to meet only a small proportion of the demand. There is considerable waste of produce because of the lack. For example, a dealer recently had 10,000

baskets of peaches shipped to him, and had to sacrifice a large proportion of these because he could not obtain storage space to hold part of them for a time. The accommodations, poor as they are, are likewise extremely expensive, charges having been advanced so as to become almost prohibitive. For example, dealers state that whereas they formerly paid one-eighth cent per pound per month for storage of cheese, they are now charged one-half cent, an increase of 300 per cent. Similar increases have been made for other goods. Dealers are compelled to ship goods to Philadelphia in order to store them. This adds to the cost of the goods, not only the storage charge but freight rates each way.

There is no cold storage in Wilkes-Barre, Pa., except in the branch houses of the big meat packers. Partly as a result of this situation the packers do most of the business in such produce as butter and eggs. Others can not compete with them, since the packers alone have a place to keep a full supply. Most of the commodities on which cold storage is required are shipped to Wilkes-Barre, then to Scranton, and reshipped as needed to Wilkes-Barre. In some instances the goods are shipped direct to Scranton and then shipped to Wilkes-Barre as required. Lack of public cold storage facilities in Waterbury, Conn.; was referred to above, p. 137.

In Birmingham, Ala., there is sufficient storage space for the requirements of the dealers, and none of them criticizes the service or storage charges. The Birmingham Ice & Cold Storage Co. has a sufficiently large plant for all the requirements of the market. It is located on the railroad about four blocks from the first stores, and when a shipment is stored it can be withdrawn in small quantities as needed.

Savannah, Ga., has at present no cold-storage facilities available for the use of the produce dealers. The only plant in the city, belonging to the Knickerbocker Ice & Cold Storage Co., is now out of business. It is antiquated and insanitary, and was condemned by Government officials. The only cold storage in the city is that in the branch houses of the big meat packers, none of the independent produce houses having cold-storage equipment. Dealers state that although they can not estimate the percentage of waste due to this situation, it amounts to many thousands of dollars every year. Dealers who formerly did an extensive business in poultry, eggs, and butter are unable to compete on equal terms with the packer branch houses because of the lack of public cold storage. As a result, the packers are estimated now to control at least 75 per cent of the business in these lines in Savannah.

Charleston, S. C., is lacking in public cold-storage facilities. All of the meat packers maintain branch houses in the city and each of them is equipped with cold storage and other scientific appliances.

Also two fruit companies have limited cold-storage facilities. But these latter are insufficient for their own demand, and there is no space for the use of the produce dealers. A leading produce dealer reports a loss of \$2,000 on a single car of apples, because he was unable to secure cold storage for its preservation. On account of the general lack of cold-storage facilities for the use of dealers much of the regular produce business in Charleston, such as eggs, poultry, and dairy products, has passed into the hands of the big meat packers.

All reports agree that cold-storage facilities in Richmond, Va., are ample for all the local requirements. Their location at a considerable distance from the produce district is, however, a serious handicap, entailing much carting. The expense of this hauling is such that some dealers do not take advantage of the storage facilities as much as their business really demands, thereby causing some loss and waste which would be eliminated by a conveniently located storage plant.

There are no adequate cold-storage facilities in Norfolk, Va. The branch houses of the big meat packers are all equipped with cold storage and one or two dealers have small individual plants. But the only cold-storage warehouse available for public use is in the plant of the Anheuser-Busch Co. The space which this company has not used for its own business is quite limited, and its charges for storage are almost prohibitive. Produce dealers state that the entire plant would not accommodate more than 5 to 10 per cent of the perishable foods marketed daily in the Norfolk district. This lack of adequate cold-storage equipment brings a distinct hardship upon every produce dealer in Norfolk, making it necessary to dispose of produce at once. This can not always be done, and heavy losses occur.

Except for a few small private plants, Jacksonville, Fla., has only one cold-storage plant, and this is not suitably equipped for the preservation of perishable foods. The cold-storage space is limited so that comparatively little is for sale, the service is reported unsatisfactory, and the charges are said to be high and subject to arbitrary revision. The location is so far from the produce district that the expense of hauling goods to and from storage is burdensome. It is estimated that this plant would not accommodate more than 10 per cent of the local demand. As a result thousands of dollars' worth of perishable foods which could be saved by adequate cold-storage facilities are lost each year.

There is no real public cold storage in Pensacola, Fla. The Ice & Fuel Co. has a wet cold storage in which space is rented for temporary storing of perishable foods. The branch houses of the big meat packers have cold storage, one large wholesale produce concern

has its own refrigeration plant, and two wholesale grocers have coolers where butter, dried fruits, produce, and salted meat are kept. They have space, however, for storing only a limited quantity.

There are two cold-storage plants in Chattanooga, Tenn., located conveniently for the produce dealers and with ample space for normal storage of food products. Only during the war was the capacity taxed, due to the supplies stored by the Government for the Army posts in the vicinity.

Wichita, Kans., has but one cold-storage plant available for public use. It is modern in construction and equipment and is scientifically conducted. The dealers report that its services are satisfactory and its prices reasonable, but it is located several blocks from the produce district and its capacity is entirely inadequate for the local demand. Some dealers find it impossible to secure as much space as desired, and as a result they labor under a great disadvantage at certain seasons of the year. Since the terminals of the five roads entering the city are widely scattered, the distance of the plant from some of these terminals is considerable. There appears considerable waste, due to insufficiency of storage space, and added cost of doing business by reason of the hauling of goods to and from the plant.

Each of the produce houses in Hutchinson, Kans., contains a limited amount of cold-storage space and there is a public cold-storage plant located near the produce district with capacity sufficient for 100 cars of goods. This plant is modern in construction and its charges are reported to be reasonable, giving the city ample and satisfactory storage facilities. This situation, with the further fact that all the produce houses were built especially for a scientific and economical handling of produce, gives Hutchinson a wholesale produce district splendidly adapted for the business with a minimum of loss and waste.

Cold-storage space is badly needed in Houston, Tex. Practically all space in the city is owned by Swift & Co., and this is not sufficient for the requirements of the produce dealers. Furthermore, dealers complain that Swift & Co. refuses to open the coolers at an hour which would allow the dealers to get their goods out of storage and on the early market.

Cold-storage space in San Antonio, Tex., is limited in quantity and poor in quality. Goods will not keep well in such storage as is available, much produce being ruined on occasion because a proper temperature is not maintained, and in a number of cases goods are reported to have been thrown away. The storage is too wet to be used for the ordinary fruits, and such facilities as exist are so inconveniently located that considerable cartage is necessary to

make use of them. Because of the inadequacy, poor quality, and inconvenient location of the available storage, dealers commonly attempt to hold for some time the refrigerator cars in which goods arrive, selling the goods direct from the car and paying demurrage for the retention. The spoilage of foodstuffs due to the lack of adequate cold storage in San Antonio is heavy, one dealer estimating this waste as high as 25 per cent of the goods handled.

There were no public cold-storage plants in Knoxville, Tenn., at the time of the last reports to the Commission. The Knoxville Ice & Cold Storage Co. had been renting space, and when necessary the wholesale dealers had been storing there such produce as apples, cabbage, oranges, and, occasionally, cars of small fruits and produce for short periods. This company, however, gave up the cold-storage business on November 1, 1918.

Section 14.—Defects of the wholesale market districts.

CONGESTION OF MARKET DISTRICTS.—The wholesale market districts of large cities are without doubt the factor most responsible for the excess expense of marketing perishable foods up to the time they come into the hands of the retailer and are the cause, directly or indirectly, of much of the loss, waste, and excess cost which have been discussed in preceding sections. Any wholesale market approaching the ideal would have direct rail connections for the speedy delivery of cars to one union produce terminal, where cars would be placed directly at the stores of the dealers. It would provide the necessary terminal and marketing facilities, including adequate, properly regulated, and sanitary warehouse and cold-storage space. It would also eliminate all cartage between the freight yards and the stores of the wholesale dealers and commission men.

The present market districts of such cities as New York, Chicago, Boston, etc., as well as those of smaller markets, are utterly inadequate. They are not strategically or logically located. None of them has direct rail connection nor are they arranged for the direct unloading of shipments by water. Every pound of food must be trucked into and out of the district. Very few markets have any facilities whatsoever for sorting, regrading, and repacking, or even for warehousing at the terminals, and all goods which are to be shipped out again have to be carried to the dealers' stores. The majority of the markets are crowded into old, congested districts, which perhaps were adequate 30 to 60 years ago, but which have received little intelligent attention for a generation or more, while the population served has vastly increased. Cold-storage facilities are not always easily available for the dealers. In a word, the marketing of foodstuffs has been left to take care of itself and there has been no conscious effort to direct its growth.

The Chicago Municipal Markets Commission, in a preliminary report dated April 27, 1914, used these words, which might, with equal truth, be applied to other cities than Chicago:

The markets of Chicago as at present constituted fail to answer every purpose for which they were created. Producers almost universally proclaim them to be poor markets in which to sell farm produce of almost every kind. This fact is patent and any person paying a visit to our receiving yards and markets will readily see the great need for improvement. Should the inquirer spend a few days in and about the market places of Chicago and make pertinent inquiries, the revelation of waste and loss laid bare will amaze him. It is deplorable to see produce representing the outlay of much labor and capital handled in a way which makes the waste appear absolutely prodigal. The losses incurred are not only those of the producer, but those of the consumer as well. These losses are due largely to the lack of proper buildings, warehouses, terminals, and other facilities. * * *

Chicago, one of the greatest food centers in the world, offers nothing in the way of the public market place. The places at present set aside in our city for the handling of food supplies are merely private trading centers where wholesalers are accustomed to gather. In this respect Chicago has not been backward from other cities, inasmuch as no American city has deliberately framed a comprehensive plan, much less carried one into effect, for developing public markets along the most approved modern lines to meet the growing needs of an enlarged territory and an ever-increasing population. Such public markets as now exist in a number of our cities fall short of the advanced position in market policy as undertaken in many European cities, especially upon the continent.

Produce dealers themselves have at times in various cities discussed possibilities of improving the situation and city governments have in a few instances given the matter attention. But people at large have not realized the vital importance of the problem as related to society generally. In the matter of terminal facilities each railroad has worked for its own interests with little or no cooperation among the roads or between them and those whose interests were affected. Each railroad has generally done just enough to hold its own traffic, but practically nothing to develop it by furnishing modern terminal facilities.

In practically all the markets it is found, as a result of this let-alone policy, that the location is the same as that of some decades ago, with the same old buildings still lacking modern facilities and often dilapidated and insanitary, with high rents and a slow and costly system of handling the goods, all adding to the consumer's price and placing a heavy burden, through financial loss and food waste, upon the producer and dealer. No statistics are available as a basis for any definite estimate of these losses throughout the country, but Mr. Henry A. Goetz, an expert of the Chicago Plan Commission, stated that the needless waste and unnecessarily added cost of food handled at only one market, the South Water Street Market, of Chicago, amounted to over \$5,000,000 a year. With the

advance in value of commodities, this loss would now be not less than \$6,000,000. This loss benefits no one. It is merely wasted.

In many of the larger cities the wholesale dealers, the commission men, and the jobbers are crowded into an extremely small area of extreme congestion, which was adequate in the first years of the city's growth, but has for many years been too restricted to serve the growing population. The city's business in other lines has developed around the market district, leaving little or no possibility of adding to the area for market purposes. Generally the streets in and about the market are the narrow, inadequate thoroughfares of decades ago.

The stores in these market districts have neither railroad, trolley, nor water connections and all goods must be trucked to and from them. With the great and constantly increasing populations served from these congested market districts the amount of foodstuffs brought in and carted out is enormous, and the scenes due to cartage congestion in the streets are indescribable. Police, mounted and on foot, attempt to keep traffic moving and break up blockades, but the delays are constant and serious. Twenty minutes to half an hour for a truck to cover one block, and two hours to move two blocks, are reported, not as single incidents, but as facts to be considered in such congested market districts. The very wagon load that requires half a day for loading and transporting the goods to the store may be sold for a rail delivery and then be trucked back to the terminal from which it had come. The sidewalks are filled so completely with displays of produce as well as boxes, crates, barrels, and baskets that buyers must go in single file and crowd in between barrels to permit the passage of persons going in the opposite direction. Wagons and trucks are backed up to these sidewalks, and during the busy hours hundreds of vehicles in each block are receiving and delivering goods. In some of the markets on certain streets the barrels, boxes, and crates of goods are delivered to the consignee in the rear of the store and disposed of by him to the purchasers at the front or street entrance. Even in such cases there is often barely space in the middle of the street for the passage of a single line of vehicles passing in one direction. Other stores are so situated that both receiving and delivering are done through the front, there being no alley or street in the rear. All these conditions of congestion make for loss of time and waste of food.

INADEQUATE AND INSANITARY BUILDINGS.—In many of the market districts, in small cities as well as large, the age and inadequacy of the buildings are causes of loss. Some of the stores, even in the larger markets, can not hold a carload of produce at a time, so

that it is necessary to keep the wagons and trucks backed up to the sidewalk until the contents are sold or in some manner disposed of. This in turn delays other trucks which are waiting for an opportunity to get in and unload.

In the congested market district both sides of the street are lined with old buildings occupied by wholesale merchants, commission men, and jobbers dealing in every variety of farm and orchard products from veal to eggs and potatoes to oranges. Since the buildings are seldom equipped with adequate cold storage for the proper care of the goods handled, produce must be disposed of immediately, or much of it will be wasted through deterioration and spoiling. This necessity of rapid handling is often the cause of heavy losses to the dealers, especially if the market is plentifully supplied with the goods, because it must then be sold at any price obtainable. (See pp. 154-155.)

In most produce districts the majority of the buildings used by the dealers were not originally constructed for the produce business even of the days in which they were first used for this purpose. They not only lack suitable storage space and often are entirely devoid of refrigeration facilities, but many are actually insanitary, some of them infested with rats and other vermin and in bad repair, not adapted in any way either for the storage or marketing of any kind of perishable or semiperishable foods.

In most markets the buildings are two, three, or, at most, four stories in height, while in some they are merely ancient and dilapidated one-story structures. Located, as they are, contiguous to the commercial, industrial, or financial section of the city, and being naturally part of it, the land values would in any case be high, and are increased by the desire of all dealers to obtain locations in the market. Were the market districts transferred to the preferable locations at the railroad terminals, the present market areas would inevitably be absorbed into the surrounding business districts. Large office, loft, and manufacturing buildings would take the place of the ancient structures, making far greater revenue for the municipality and at the same time giving the full social benefit of the location. As they now are, they constitute a distinct fire hazard, standing in the way of important municipal improvements.

The inadequacy of the dealer's store has its effect on all other parts of the machinery of marketing, including the railroads. If everything is made easy for the railroads by the immediate removal of all arriving freight, the present store space of the dealers is not sufficient to hold the goods, and losses or sacrifices of value follow. If, on the other hand, the wholesalers and commission men do a portion of their business at the railroad terminals, they get in the way of outgoing freight, clog the terminals, and force the railroads

either to declare embargoes or divert consignments to points in the city where they were never intended to be sent.

EXCESSIVE RENTALS FOR STORES.—In spite of old and inadequate buildings, the dealers are compelled to pay very high rents for the privilege of remaining and doing business in these congested, uneconomic market districts. The individual wholesale dealer dares not by himself leave the district, where all retailers have been accustomed to come for their supplies, and seek another location with better accommodations and more equitable rents. It would indeed be business suicide in most cases to attempt it. Only by concerted action to move the entire wholesale produce market to another location can the dealers be freed from the necessity of paying whatever rents the owners demand, so long as such rents are advanced with a fair degree of equality as between the various dealers in the same market, and all are laboring under the same general expenses and lack of facilities, the incentive is not strong enough to bring the dealers together for concerted action, since they feel that to a large extent such additional costs, as well as losses and wastes which are proportionally equal, are passed on to the retailers, and by them to the consumers, in the cost of the goods. They know that all other dealers are under similar handicaps. Hence there are found dealers in these markets paying rent twice or three times the amount they paid a few years ago for the same building without any additional facilities and in bad repair. The owner has done nothing to improve the property, and the only added value to the premises is the increased value given to the site by the increase of the produce business and the development of other business areas around it, due to the growth in population.

Nevertheless in several of the large market cities there have been attempts on the part of the dealers to get together and establish their markets at better locations, since they realized the great losses of the present system and the possibilities of more moderate prices to the consumers as well as increased profits for themselves under better conditions. The owners of real estate in the market districts oppose all such projects. It was estimated by Mr. Henry A. Goetz, an expert employed by the Chicago Plan Commission, that among the unnecessary expense burdens for food handled in the South Water Street market of Chicago the excess rent amounted to \$720,000 per year. "Two hundred firms," says Mr. Goetz, "are paying from \$400 to \$700 per month rent; this is \$200 to \$400 too much." He arrives at a total excess rental by assuming that the average excess rent for the 200 firms is \$300 a month. Naturally, this \$720,000 excess rent is added to the cost of food when sold to retailers and by them figured in their costs upon which a profit must be made. Amounts propor-

tionally as great are added to the cost of foodstuffs through excess rentals in other markets.

In some markets the dealers can get long-term leases only by paying a premium, since valuations are expected constantly to rise. In other markets the leasing is more favored by the owners as a method of preventing any concerted action for the establishment of the wholesale market in a better location. There is special complaint in this regard by the produce dealers of Minneapolis. In this market most of the buildings are owned by one man or by concerns which he controls. Although these buildings are reported to be old, inadequate, insanitary, and rat-infested, the rent for each dealer is placed at as high a figure as the landlord thinks his business will stand. The tenants are compelled to furnish all inner service and equipment themselves. Here the dealers all express the desire to get out of this district, but dare not make any move to do so. They are required to take five-year leases for the premises, and it is arranged so that their leases do not all expire at the same time, which makes it impossible for all to go at once to another location. In fact, the landlord interest has such a dominant control over the dealers that they are afraid even to agitate about moving. It is alleged that this strangle-hold of the market has greatly retarded its development, as well as adding heavily to the food bill of the city.

It may be thought that under such circumstances some outside interest might build a market and let space in it. It must be remembered, however, that to do so would require a large investment, and the plan would not be a success unless a sufficiently large number of dealers could be induced to enter the market to assure the coming of the greater part of the district. In some cases, as just cited, this must be done in the face of opposition from the landlords in the old district, whose position may be strengthened by the fact that the leases on the present buildings expire at different times.

SIDEWALK, STREET, AND TRUCK AS SALESROOM.—Because of the inadequacy of the stores and the lack of any convenient method for displaying merchandise in the old and unsightly buildings, the sidewalks and streets, as well as the trucks which have brought the goods from the railroads, are utilized for the storage, display, and sale of produce. The sidewalks are so entirely filled with boxes and barrels of produce that the crowd of buyers and dealers fills every space and impedes its own movement, while passage, in places, is impossible except in single file, causing difficulty and delay to jobbers and retailers desiring to inspect and purchase the goods and adding greatly to the cost through loss of time. Such conditions not only tend to a considerable deterioration of the merchandise but are a constant incentive to petty thievery. During the active trading

hours the congestion and confusion increase, the crowd of buyers and dealers having business on the street being augmented by purchasers who have been delayed by the congestion when they should have already completed their dealings and left the district for their own stores and offices.

In some markets this display of produce extends out into the street as far as 15 feet. There it is unloaded and stacked up in boxes or barrels, without roof or walls for protection. In some cities the dealers pay rent to the city for these street accommodations while paying the landlords for the indoor premises. Stress of weather sometimes, and nightfall always, forces a removal of any unsold goods in the street to the store or cellar, to be brought out again in the morning if weather permits, adding the expense and waste of further handling. Canvas covers and screens are used as far as possible during severe weather, but the method is bad for the produce and disagreeable for the buyer who has to visit several such establishments each day.

The trucks which have brought the produce from the freight yard will often be held for storage and display in front of the stores until purchasers are found for the load and all or most of the goods are sold. The long delay of a truck used for a "storeroom" led the transfer companies in Chicago to establish what is essentially a demurrage charge. There is "free time" up to one hour. After that \$1 an hour is charged in addition to the regular cartage rate. As little as possible is unloaded into the restricted stores, although much is unloaded to the pavement. From the pavement or the truck the dealer delivers the purchased goods to the retailer's wagon, often on hand trucks. This may be around the corner or a block or two away, because of inability to bring the wagon nearer the store. In some markets the wholesalers deliver the produce to the purchasers in the truck or wagon in which it came from the terminal. When the wagon arrives it is backed up to the curb, if there is room, to display the goods and await purchasers. The first may buy a portion of the load. The wagon then drives off and delivers the produce. On returning to the store with what remains, the wagon is backed up again for further sales. If there is no room at the curb, it waits until space is clear. Another portion is sold and delivered, and this is continued until all is disposed of. Having been held on the wagon or exposed on the sidewalk or street, maybe for hours, handled, and rehandled, the goods are already deteriorated when delivered to the retailer and are pretty well "worn out" before they reach the consumer.

SCATTERED WHOLESALE MARKETS.—In a few cities the wholesale produce dealers are not segregated at all but widely scattered, instead of being crowded into a too greatly congested area. In one

of the cities in the South, which is an important shipping as well as distributing point, there are at the present time 20 distinct wholesale produce firms which specialize on fruits, vegetables, and other highly perishable foods. These concerns are scattered through at least a mile and a half on one of the busy thoroughfares, on which are also a large number of retail stores and other places of business. These wholesale produce houses are sandwiched between other places of business, are totally lacking in economic or scientific facilities for the storage and marketing of the merchandise, and are located in many cases at a remote distance from the only cold storage in the city. Under these circumstances there is no possibility of any united effort to improve marketing conditions, while the retail dealers are put to a heavy loss of time going from store to store or, because of this trouble, fall into the habit of dealing only with one wholesaler, accepting such produce as he offers and paying the prices he demands.

Similar scattering of the dealers is shown in one of the mid-western cities, but in this case each house has sought and obtained the important distributing advantage of being on a railroad siding. There is, however, no segregated market district, nor do all produce houses have connections with the same railroad. Of the eight important wholesale produce dealers three are located on the tracks of one road, three on a second line, and two on a third railroad.

Except in the case of such cities as that just mentioned, in which the dealers have erected their own buildings at the railroad, the produce dealers scattered among all other lines of business usually occupy buildings which were originally constructed for other purposes and which are without modern appliances and railroad connections.

Inferior marketing facilities have not only a direct effect upon the cost of the goods and hence upon the price paid by the consumer, but also an indirect effect through the hampering of production. Nothing means more to the producer than prompt handling and quick sales. Every delay, every rehandling, lessens the quality of the product and consequently the financial return. The shippers would increase their shipments if they could obtain the prompt handling and quick sales which would be secured by properly arranged terminal wholesale markets, and were the trucking charges to disappear. The producer's uncertainty of being able to market his goods is a greater handicap to production than even low prices. If the market is assured the farmer will produce more and can afford to take a lower price per unit of produce and still make more money per labor unit than he did before. The lack of good markets tends, therefore, to keep out of the large cities foodstuffs

that are needed, and the lack of good distributing facilities adds a large percentage of cost to the goods received.

Section 15.—The effect of glutted markets.

GLUTS AND FAMINES.—The greatest problem arising in the handling of perishable foods is the securing of complete and even distribution. Mr. Karl F. Kellerman, associate chief, Bureau of Plant Industry, United States Department of Agriculture, says:

Of all losses, those resulting from local or general gluts in the market are most serious to the producer. The losses thus occasioned not only result in destruction of the produce at the glutted market, and frequently additional produce held on the farm, but also require the farmer to recoup his losses in other crops, or in other seasons, if he is to continue in business. The consumer, of course, must eventually carry these extra costs, although neither producer, consumer, nor middleman benefits thereby.

During the seasons of various highly perishable fruits and vegetables there are days when each wholesale market has such an abundant supply that no reduction in price or other means is effective for disposing of them, while on the same day at other markets the amount of the same goods is very small and their price very high. The changes in supply of each kind of perishables received at any wholesale market from day to day or from week to week are very great. It is not uncommon for the receipts of a particular fruit or vegetable on one day in a large market to be several times as great as they were on the day before, while two or three times as much is received one week as in the preceding or following week. Failure to distribute the available quantity of each variety of fruit and vegetable so as to make the local supply more nearly equal to the amount for which there is demand causes one market to be glutted with certain goods at the same time that another market will be experiencing a famine in the same foodstuffs. Under such circumstances many products remain in the glutted market until they decay and have to be hauled to the dump, whereas if they had been properly distributed among the markets all the produce might have been consumed. At times farmers are compelled to let their goods rot because they can not find a market which is not already oversupplied, while extremely high prices, due to an inadequate supply, are being charged consumers in markets within shipping distance.

In some lines after a normal supply is distributed more can be forced out by a reduction in price. With most fresh fruits and vegetables this is impossible beyond a limited extent without heavy loss. As soon as the market is well supplied at normal prices, so heavy a cut in price is required to secure further distribution that the average of the shipment will show a return less than total cost. The purchase of considerably more than the usual average can be

induced, but it takes time for a heavy cut in prices to pass through the chain of middlemen and arouse the interest of consumers enough to encourage retailers and jobbers to buy still larger quantities. In the interim the goods may have been spoiled. The glutted condition of the market meantime causes shippers to hold back further shipments of goods or to divert them to other cities, so that a genuine shortage may develop by the time consumers learn of the low prices. Then a period of high prices ensues from the joint effect of stimulated demand and restricted supply. This period of high prices will in turn tend again to bring on a glutted condition. The alternation between such situations is well illustrated by an occurrence reported from New York during 1918. There was a period of shortage in fruits with very high prices. A carload of cantaloupes arrived when the supply was about exhausted, and was sold at the extremely high price of \$7.50 to \$8 a crate. As a result of the news of such prices everyone rushed goods to New York, and soon there were 600 cars of perishable fruits there. The losses were terrific. Pears that had cost \$3.50 a box were sold as low as 30 cents. The same situation obtains on a smaller scale, but with even greater proportional fluctuation, in the smaller cities which have less ability to absorb a surplus. One week only a single dealer may have peaches, and with a good demand he makes a large profit. Encouraged by these prices he and other dealers increase their orders, with the result that when the cars arrive there will be many more peaches than the small population can consume at any price. The dealers will lose money and a large quantity of peaches will decay.

The extent of the actual waste of food is difficult to determine with any certainty. Much of that sent to the dump might have been moved had dealers not held it for better prices than could be obtained; consequently many dealers minimize estimates of the quantity dumped through fear of criticism. On the other hand dealers estimating their losses usually have no other basis of reckoning than the cost of the goods and the amount obtained for them, including therefore the value of goods spoiled and the loss on such goods as were disposed of at a price less than cost. Some make their losses still higher by using as a basis the price which they expected to receive when ordering the goods, instead of their cost. Few dealers, therefore, are able to give reliable estimates of actual waste of food due to gluts.

DUMPING OF PRODUCE.—There does not seem to be convincing evidence of any considerable premeditated dumping of good produce in order to maintain prices on the market, although instances were found where good vegetables were sold for practically nothing for feeding hogs because the market was glutted. Several tons of tur-

nips were thus sold in one city at 25 cents a bag of 100 pounds, when the bags alone were worth 15 cents, on the understanding that the turnips were to be used for feed and not put on the market again. It is claimed that the turnips were not in bad condition; and this sale was made solely to prevent a break in prices. Practically the same effect often results, however, from the determination of the commission men and wholesale produce dealers to maintain what they consider the proper price, in order to get larger earnings, with the result that goods spoil while being held waiting for a sale at this price. Under this system the commission man or other dealer will sell a part of his fruits or vegetables at a high price, letting the remainder spoil for want of a sale and carting it to the dump when it is decayed.

During the winter of 1917-18 there was a heavy loss of produce at terminals and dealers' stores due to freezing in transit, as has been cited in previous sections. (See pp. 122-123.) This caused much gossip to the effect that the produce had been allowed to freeze in order that it might be dumped without governmental interference. There seems, however, no evidence that this was other than the misfortune of the owners of the produce, due to the severity of the weather and the lack of facilities for the proper care of the produce. Common sense would seem to preclude any such practice as dumping good produce under the conditions of competition that prevail in its handling, in order to keep up prices, or intentionally allowing it to decay and then dumping it. The commission man could afford to sell at a low price and receive a small commission rather than get no commission on the goods dumped for the sake of a possibility of larger commission per unit from a more limited supply. The wholesale dealer would be still more foolish to attempt price manipulation through dumping of goods which he himself owned. His loss would in such case be certain, his gains quite uncertain. (Cf. chapter II, pp. 69-70.)

It seems to be pretty generally the policy of both commission men and wholesalers to sell goods for the best price they can get, reducing this price when it is necessary to do so in order to cause goods to move when the market is oversupplied. Often their judgment is at fault, and goods held for an expected increase of demand or decrease in supply go to waste. Since temporary reductions in the wholesale price seldom reach the consumers, and reductions below certain levels do not seem to increase demand, goods in an oversupplied market have to be sold, whatever price level is maintained. Thus a wholesaler in Washington reported a recent feeding of \$300 worth of cantaloupes to the hogs. These he had bought outright, but they spoiled while he was trying to sell them.

If the same dealer does both a commission and a merchandising business, it generally happens that the perishables which are deteri-

orated or spoiled and dumped are those which were sent him on consignment rather than those he bought outright. He naturally attempts first to move the goods in which his own money is involved. Even among consignors there are said to be some differences; those who live fairly near a city can give some personal attention to the way goods are sold, while those at a distance are more likely to suffer. It is asserted that some unnecessary dumping is caused by Government or municipal regulations, such as a rule of the board of health, that all specked pineapples must be thrown out. This may cause a 3-pound pineapple to be thrown away because 1 ounce is bad, whereas such pineapples could well be used by the pie trade or by others who could cut out the decayed portion and make use of the sound and healthy part. Imported goods which arrive at the port of New York in poor condition are sometimes abandoned by the consignee, in which case the duty is refunded by the Federal Government, which then has possession of the goods. It may be that such produce is not completely decayed, but neither the shipper nor the city authorities can dispose of the sound portion; and, since the Federal Government has no facilities for their disposal, the goods are allowed to become a total loss and are dumped.

GLUTS AND RETAIL PRICE.—When the market is glutted the wholesale prices of produce are often so low as to be ruinous to the producer, failing to return him the cost of production, and in some cases even the cost of packing and transportation, while at the same time the consumer who buys in small quantities realizes but little reduction in price. The present methods of marketing produce do not give to the consumer the benefits of the unusually low prices which the producers are receiving. Gluts in the wholesale markets are seldom known to the householder, or even to the retail dealer in many instances, where, as in the larger cities, they do not come in contact with the wholesalers, but purchase from jobbers. This is due in part to the present method of making retail prices. On certain goods the retailer will make a price, for example, of 20 cents per quarter peck, and this price will not be affected by changes in wholesale prices of less than \$1 or \$2 a barrel. It is suggested that if retail prices were quoted on the pound basis the retail prices would follow the wholesale prices more evenly, and the consumer would be more likely to get the benefit of any decline in the wholesale market. But most of the retailers are inclined to put rather conventional prices on many of the lines of produce handled by them, and fail to make changes to correspond to the variation in the prices they themselves are paying. Consequently, when produce is plentiful and cheap at the wholesale center, the retail stores have no comparable depression of prices which would stimulate consumption and aid in breaking the glut and preventing the heavy waste of good foodstuffs.

The retailer, moreover, believes that after a certain price level for any particular fruit or vegetable has been reached the consumers will buy practically all necessary to satisfy their desire for it. Therefore the retailers seldom reduce their selling price below the point where they believe consumers will purchase the maximum quantity. And because they can only slightly increase the amount of their sales by lowering their prices, the retailers can not be induced to increase the quantity of their purchases very much no matter what reductions the wholesalers make. If there is a large surplus, the wholesalers and commission men nevertheless continue to reduce their prices, each in an effort to rid himself of his supply in competition with other wholesalers, until much of the produce can literally not be sold at any price, or in fact given away. Meantime retail prices remain practically the same. Some wholesale dealers, however, assert that a reduction in price seems to result in the tapping of a considerable demand that lies below the ordinary level, for at such times, in some markets, a large amount of "cheap business" comes into the markets. Others report that in times of glut they have tried without success to give produce away to institutions rather than have it spoil and sent to the dump. During the winter of 1917-18 dealers in Washington, D. C., had a large surplus of potatoes, and while some small quantity was taken by institutions, much had to be thrown away as no one could be found to take it off their hands, even as a gift. New York dealers report a similar situation regarding turnips in the spring of 1917, when an oversupply of turnips arrived with no market for them. They called up the New York Department of Markets to ask them to dispose of them, but were told that not even institutions would take turnips at that time. Some dealers even assert that the mere fact that goods are plentiful and cheap seems to make people suspicious of the quality and unwilling to buy as much as normally. In some cities it would seem that large supplies, therefore, tend to make goods unsalable, rather than induce greater purchases, and that buying on the part of the consuming public is spasmodic, with an apparent desire for scarce and high-priced lines. To solve this difficulty it is suggested that Government statements in the newspapers would give publicity to the oversupply in season in the wholesale market, to make their prices more responsive to those of the wholesale market and induce housekeepers to buy greater quantities for immediate consumption and for preserving.

UNREGULATED SHIPPING AND BUYING.—Some of the dealers place the blame for glutted markets upon the lack of cooperation among the wholesale dealers and commission men of the city and among the shippers in the country. Unregulated competitive buying unquestionably causes a large amount of waste. A St. Louis wholesaler of fruits and vegetables stated that there are six or seven merchants

who ship in the bulk of the fruit and vegetables to that city, and no one of them knows what the others are doing or when they are going to do it. As a result the market is alternately glutted and short. This adds an element of risk, not only for the big receiver but also for the jobber and retailer, which greatly increases the cost of doing business. An attempt to bring about some cooperation among these dealers in bringing in supplies was not successful. A dealer in Wilkes-Barre, Pa., reported that the previous week only one dealer had had any peaches for sale. As there was a good demand he made a profit. He adds: "Now, I have ordered two cars of peaches, but perhaps others have done the same. When they arrive the market will be glutted." Waste of peaches would necessarily follow. Without some regulation or cooperation there is always a tendency on the part of some firms to try to handle more goods than they are able to handle, with resultant overloading of the market.

The same effect is brought about by the fact that a great many growers, believing a certain market to be very good, will send there a large amount of produce at the same time. A dealer in a certain city may telegraph a shipper for a carload of cabbage. A number of growers will learn of the order and the price offered and, thinking the market very good, will send cabbage to that city on consignment. The result may be that while the market could handle 1 car to advantage it gets 10, so that not only the consignors but the dealer who had purchased the 1 car may lose heavily. The consigning of goods to an overstocked market without the consent of or advice from the dealer to whom they are consigned is one of the great difficulties. Dealers state that they frequently have one to half a dozen cars of perishable fruit or vegetables consigned to them by shippers who have not even asked consent to ship the goods and who either ship or divert them without inquiring the condition of their market. Sometimes this results in a glutted market, and consequently very low prices are returned to the shipper.

In some of the markets, especially during the war period, there has been a decrease of the antagonism prevalent among dealers, and a type of cooperation among them has been developed which has resulted in the prevention of gluts and waste of food. This is particularly true in cities having a well-organized terminal market, where all produce dealers are located and can become better acquainted. In these markets the dealers get together in the matter of ordering goods, each knows what the others are handling and approximately what the future supply will be, and they split among themselves the shipments of highly perishable goods, with the result that the market does not become glutted. Heavy losses are not experienced nearly so often as before this harmonious situation developed. This plan undoubtedly prevents waste of foodstuffs and

losses to the dealers, but may well be open to suspicion as a possible means for unduly limiting the supply in order to force higher prices, even if, as the dealers assert, there is no agreement regarding the prices at which goods are sold nor any agreements other than the arrangement for each to take a certain proportion of the incoming shipments.

Likewise, when the shipping of the greater part of any kind or grade of fruit or vegetable is in the hands of an association of growers, produce exchange, or other distributor, care is taken so to distribute the goods among the markets as to prevent either glut or famine in any of them. Such organizations often start cars of goods rolling in the general direction of the large markets, but without any prearranged destination. Later they divert them en route to those markets which reports indicate as most needing them. To such proportion as a distributor handles a product, to that extent he can so distribute it as to insure a steady market and prevent the glutting of some markets while others are having a famine. In many parts of the country, however, the growers are so separated and unorganized that they can not get any of the benefits which come from such distribution. According to some observers, it will take years to get producers generally organized. Some dealers criticize the control of distribution exercised by these exchanges and associations as tending to control and raise prices to the injury of consumer and dealer through the consequent decrease of demand.

Most of the producers and shippers rely upon market reports for their guidance in making shipments on consignment. Until recently these consisted of reports issued by various dealers or producers' associations, market report companies, and advices from the commission men with whom the various shippers were accustomed to deal. The aim of such reports was to secure and disseminate information with regard to certain crops of the United States, their distribution, their movement, and the condition of the various markets. The limited resources of such organizations and their lack of facilities, however, prevent them from approaching the extent of work in this line now being carried on by the Bureau of Markets, United States Department of Agriculture. This bureau publishes daily reports on the movement of perishable foods, indicating where the supply is too great or too small, and giving all shippers a more extensive and more equal knowledge of market conditions and prices. These reports apply as yet only to the larger centers of distribution and might well be extended to smaller markets if they are accomplishing what is claimed for them. Complaint is made, however, apparently well grounded, that these reports acted upon by a large number of shippers at the same time frequently become the cause of the very

conditions they would prevent, glut in some places and famine in others.

In spite of all reports, however, many shippers seem blindly or indiscriminately to consign their shipments to certain large markets, though better prices might be obtained at even nearer points. And when one shipper gets an exceptionally good price for his car in a certain market and tells his neighbors, they all want to ship to that same place, without ascertaining whether meantime the market there has fallen. If it has not, such concerted shipping would soon break any high level of prices if it did not create an actual glut.

In some States there have been created somewhat similar marketing bureaus to advise shippers. These have been of much assistance, but have no power to direct distribution. Upon request, the representative of such a bureau informs the shipper which are the best markets available. Many shippers throughout the State may get this information at the same time. Having cars rolling, and not knowing what others are about to do, they may all divert the cars to the markets recommended. This results in oversupply there and consequent heavy loss. It is reported that the tomato crop of Florida for 1916 was almost 1,000 cars less than in 1915, yet for lack of proper distribution the growers, as a rule, did not obtain even packing charges. Were there a Government bureau, not merely with ability to advise and recommend, but with power to direct the distribution of the cars, it is contended that a great deal of such loss would be prevented.

THE EFFECTS OF FACILITIES AND OUTLETS.—Suitable arrangements for caring for a surplus supply in the market and the existence of outlets in the surrounding territory may greatly reduce the occurrence of disastrous gluts. Except in the case of those highly perishable goods which can not be held under any conditions, adequate cold-storage facilities may play an important rôle. Where these are satisfactory they tend to equalize the supply from day to day, to keep up prices at time of glut and hold them down when arrivals are short. For instance, several carloads of fruit arrived for a certain dealer on Monday, a holiday. Because of large receipts during three days the market was glutted on Tuesday. Had cold storage been available part of this oversupply could have been temporarily stored, but lack of storage caused it all to be thrown upon the market at a heavy sacrifice. Too long holding in storage may, of course, result in deterioration and waste of the produce. A wholesale vegetable dealer, reporting that when there was a glut in the market he has sent celery to storage, states that he has sometimes had to hold it so long before the market improved as to require further stripping down of the stalk and thus considerable food was wasted, with a consequent financial loss.

The existence or lack in a market of establishments for canning or dehydrating fruit and vegetables has a very decided effect upon gluts, inasmuch as these concerns always offer a market at some price, thus preventing any necessity for permitting waste and eliminating the possibility of total loss. It is reported that there is no evil of glutted markets for pears in San Francisco, and can be none, since any surplus over the amount needed by the market can be dried, and there is a good demand for dried pears. Similarly there is very little waste in such fruit warehouses as those at Yakima, Wash., since the fruit is carefully sorted and even the culls reach the consumer in some form, due to the existence at Yakima of a cannery, a drier, and a vinegar factory. At points where such facilities are lacking there is necessarily greater waste. The same difference in amount of waste exists among the terminal market cities as between such cities as Baltimore, which has canneries to care for a surplus, and Washington, which has no such outlet.

The location of the city and the transportation situation are also factors in the glutting of market. The trouble is apparently aggravated by the accumulation of great quantities of goods at large cities, especially in the East, for redistribution to many smaller markets, each of which consumes full carloads and could probably be served more economically were its shipments received direct from the areas of production. Cities located midway from the region of production to that of greatest consumption can never be glutted unless all other markets are in a state of oversupply. Kansas City is thus located for California products, but cars passing there enter upon a constantly narrowing market. In lesser degree this holds true of all points which are to any considerable extent distributing markets, since cars arriving during a period of surplus can be kept moving to some other point. Some cities, because of their location and transportation facilities, can not ship cars out again after they have arrived but must consume or dump all produce, unless they have canning and drying establishments. Shippers are chary of sending their best produce to such places, sometimes referred to as "pocket markets," in the fear that it may not be disposed of. As a result such markets tend to have higher prices and inferior goods.

Section 16.—Wholesalers' excessive expense for delivery.

The delivery of goods from the wholesaler's or jobber's place of sale to the store of the retailer is a matter of very serious import, inasmuch as wholesale dealers say that the cartage cost has grown out of all bounds since the advent of trucks and automobiles. In their experience both retailers and consumers ask and demand entirely too much service and usually get it, because there are always mer-

chants who do not have any adequate system of cost accounting to check up their expenses and thus make it impossible for a few to put into effect any movement for restricting this sort of cost. The consumer demands from the retailer frequent and special deliveries and obtains the accommodation. The retailer, in turn, requires that the same service be given to him and therefore imposes on the jobber and wholesaler. He orders frequently and in small lots, generally stating that he is out of the goods and needs them for some orders already given by his trade; and the jobber or wholesaler makes a special delivery of the goods for him. These special deliveries add heavily to the expense of doing business, as it costs practically as much to deliver 1 sack of potatoes as it does 10 or more sacks. In some cities this free delivery of wholesalers or jobbers extends to all retailers within 30 miles, goods within the city being delivered by truck, those sold outside sent by express. The competition for business has been the incentive to extend deliveries because each firm fears that if it does not give a requested service some other firm will; or one firm gives an extension of service and all others are compelled to do likewise or lose customers.

Not only is the wholesaler called upon to deliver at frequent and irregular intervals, each time with small orders, but the delivery charge upon a community is still further increased by the fact that the retail dealer will often order in small quantities from three or four concerns on the same day, causing that many more deliveries to take place. Every firm seeks the same trade, and delivery wagons of the competing firms cover the same ground each day and give special delivery in addition when called for. It is not uncommon to see three or four large trucks of that many wholesale or jobbing firms standing before a single small retail store. The cost of these individual delivery systems in the cost of additional labor required and the expense of maintenance of trucks and wagons is a large item to be figured into the wholesale prices; and the time and actual cost of many deliveries of many firms over the same routes, often to the same customers, form expenses which are eventually passed on to the consumer.

A custom which adds greatly to the expense of delivery has crept into the jobbing trade. It is the present method in many cities when delivering the goods to the retailer to place them wherever may be desired. This is often the basement, second or third floor. Such a practice not only causes many hours of labor to be lost, through the delays to truckmen, but necessitates in many instances the sending of two, and sometimes more, extra men with the truck. In addition truckmen are many times delayed at the retailer's store through inattention and delay on the buyer's part in giving him a prompt re-

ceipt for the goods and general indifference of the retailer to the fact that the truckman has others to serve. Long delays on the delivery route caused by the loss of time in placing goods in various parts of the stores add greatly to the deterioration of perishables, which in any case occurs to some extent during delivery.

Many remedies have been suggested for the reduction of cartage expense, and some of them have been tried with varying success. In some cities wholesalers sell f. o. b. their warehouses, leaving the matter of delivery to the retailer. This has the result of throwing the effect of improper ordering upon the retailer himself, with the result that he is apt to order in larger quantities to save himself special trips. It is doubtful, however, whether sending a great number of retailers' wagons to the wholesalers is a more economic method than delivery by the wholesaler himself.

In other cities attempts have been made to have the various wholesale dealers agree to cut down the number of trips and give only curb delivery in fair weather, with threshold delivery in stormy weather, leaving it to the clerks of the retailers to place the goods in the store during their leisure time. They arrange so that on the same day all trucks of all dealers cover the same district, in order that retailers may not continue to obtain daily delivery service by ordering from a different dealer each day. With this has been tried the plan of charging the retailer for any special delivery. Such plans are difficult to put into effect, because dealers are often led to break any such agreement through desire to increase business, and all are more or less suspicious of each other.

Fruit and produce dealers in Peoria introduced during the early part of 1918 a system of making a charge for deliveries. But two wholesale grocers continued to give free delivery; and since they handled a large part of the same line of goods, the cartage charge had to be discontinued by the others. The charge made was 5 cents per 100 pounds, with a minimum charge of 15 cents to any part of the city or suburbs. In the dealers' opinion this experience indicated that a charge for cartage would reduce delivery expenses at least 50 per cent as well as turning man power into more necessary lines.

A rather comprehensive plan for limited deliveries, with a charge for special delivery, not only for foodstuffs but for all merchandise, was put into effect throughout the State of Utah during the war. This was carried out under rules drawn up and promulgated by the Commercial Economy Board for Utah with the support of the Council of National Defense and Food Administration. With this Government sanction it was exceedingly successful.

The delivery regulations as applicable to the wholesalers in Salt Lake City provided that no vehicle might go to the same customer

nor over the same route more than once per day (twice per day for highly perishable goods) in the down-town section, nor more than once every other day (once each day for highly perishable goods) outside the down-town section (hospitals, hotels, restaurants, and depots excepted); that each vehicle might leave the wholesale house as many times per day as need be if fully loaded or if going over a different route each time; that one special delivery a day was allowed to a customer in case of necessity, but a minimum charge of \$1 for this delivery must be paid by the customer, the purpose of this charge being to discourage special deliveries. Beyond Salt Lake City limits deliveries were limited to not more than once weekly for nonperishable goods and twice weekly for perishables, deliveries for great distances of this character being justified only by loads of at least 75 per cent of the carrying capacity of the delivery truck. The regulations further provided that deliveries were to be only on the ground floor, and that receivers were to expedite the departure of the delivery man in every way possible. Mr. W. F. Jensen, State Commissioner of Commercial Economy, in a letter to the Federal Trade Commission under date of November 21, 1918, writes:

It is difficult to determine just what the saving is. I am told that four of our department stores in Salt Lake City are saving \$150,000 per annum in delivery costs. That, of course, is a great deal for a town of this size. I should say that all these reforms in deliveries, as a whole, might make a saving of \$1,000,000 in Salt Lake City alone, a town with about 110,000 population. I believe I am safe in saying that reducing deliveries from three and four per day to one delivery per day, to each house, actually made a decrease in operating costs for retail merchants of anywhere from 3 to 6 per cent on the total volume carried on. Or, in other words, if it cost them 20 per cent to do business, these curtailments would reduce that 3 to 6 per cent, and in the long run I believe the public is securing benefits from the saving.

It has resulted in quite an increase in the "cash and carry" plan, which is the most economical of all. The average saving in deliveries, as applied to wholesalers, might be from 1 to 2½ per cent on the total done; while, in a general way, all deliveries, as applied to wholesalers and retailers under these rules and regulations issued by us, certainly reduced the number of men or boys employed, the number of trucks, horses, and wagons operated from 35 to 75 per cent.

To what extent these economies will be continued after the war emergency it is impossible to state, but the social benefit of these and similar economic adjustments has been so clearly demonstrated that dealers may be willing to cooperate. Such benefit should be made to accrue, either through competition or government regulation, very largely to the consumer.

Many dealers, however, feel that even such regulations do not eliminate all unnecessary delivery expense, since there still remains the duplication incident to individual deliveries of several dealers covering the same routes. Such wholesalers suggest the creation of a

delivery company, either as a cooperative affair of the dealers or as an independent venture, which would consolidate all deliveries with well-defined routes both for receiving the loads and for making deliveries. Such a company could provide itself with proper vehicles for the transportation and protection of foodstuffs and give only such delivery service as would be of the best economic advantage.

UNFAIR AND WASTEFUL TRADE PRACTICES.

Section 17.—Practices of farmers and shippers.

Single instances of unfair and sharp practices between handlers of foodstuffs may result in losses to some persons and undue profits to others; but isolated transactions of this kind do not necessarily cause such losses or wastes as to be of social interest. When, however, transportation or other facilities are used for products which the shipper knows to be worthless or when sharp practices are sufficiently common to bring an element of distrust into dealings generally, an added cost is the inevitable result. If individuals of any class use sharp practices to an appreciable extent, the suspicion toward all members of that class is such that any persons dealing with them must make the spread between purchase price and sales price sufficient to include an insurance charge. If this suspicion exists at each step in the marketing process, there is obviously a considerable charge due to insurance against unfair and sharp practices. When this is added to the legitimate cost and passed on to the ultimate consumer, the problem assumes material importance.

Farmers and shippers sometimes misrepresent the quality, condition, weight, or count of their shipments. They often mix in culls of fruit and vegetables which should have been left in the field or orchard. It is clearly uneconomic to incur cost for their transportation to market, where they must be sorted out and dumped. Not only an inferior grade but sometimes actually rotten and diseased vegetables are found in a shipment. The purchaser in such cases has no adequate protection and no recourse for reimbursement except through process of law. Dealers claim that appeal to the courts is too slow and expensive a procedure in most cases, and they urge the creation of some quicker, fairer, and cheaper agency for rectification of these evils. Some suggest a system of inspection at shipping points and the licensing of all shippers, whether farmers or not.

A great deal of trouble and loss is caused by the fact that farmers and other shippers "top off" their goods. A car of fruit or vegetables is often topped off with very good stock, while inferior goods are concealed below. When a carload is received it is possible to inspect only a few barrels or bags next to the door. These will be

found of good quality and in prime condition; but after the car has been accepted, paid for and unloaded, its contents may prove to be of generally poor quality, with inferior or actually bad fruit or vegetables in the ends of the car. Apple shippers especially are charged with making a practice of topping off their barrels. They put nice, large apples on the top and sometimes on the bottom, filling the center with small and off-grade stock. It is reported that apples have been packed with a stove pipe in the center of the barrel, the high-grade apples being placed around the outside, while culls were placed inside of it. The pipe was then withdrawn and a final layer of good stock spread over the top of the barrel. The evil of topping off barrels of apples has become so general that in some districts it is customary for the commission man to send his own men into the country to grade and pack the fruit. Some dealers assert that they would seldom buy apples from a commission man who did not state that his own men had done the packing. Of course, there are some farmers in these districts whose goods are so well and favorably known that dealers have sufficient confidence to buy from them. Potatoes are often loaded in much the same manner, with the off-grade, rotten, or diseased potatoes placed where they will be unobserved during inspection. Farmers ship many potatoes which can not be marketed for human consumption and should be kept for hog feed.

Dishonest billing of cars by the shippers is also a source of loss. There is an informal trade understanding allowing for a shrinkage of 2 per cent in shipments of potatoes. Shippers sometimes take advantage of this and fill to only 148 pounds or less the sacks which should contain 150 pounds on arrival. Retailers demand full measure, consequently the wholesale dealer has to make up the amount held out by the shipper. A car of cabbage shipped from Wisconsin to Tennessee was billed at 25,000 pounds. It weighed 23,000 pounds when it arrived at the unloading point after seven days on the road. Since normal shrinkage should not exceed 500 pounds, there was clearly something wrong in the loading. Some shippers regularly send cars of cabbage and potatoes which show 10 to 20 per cent less weight than called for in the invoice. Such a shrinkage is too great to have occurred in the length of time the cars were rolling. The draft for the purchase price has to be taken up after inspection, but before the car can be unloaded and its contents weighed. To obtain any refund for such shortages after goods are paid for is practically impossible. Dealers urge some regulation by which the shippers would be compelled to guarantee weights within 5 per cent; they contend that this would cover all natural shrinkage in transit. In one case encountered the freight bill called for a lower weight than did the bill for the goods. It is apparent that either the car's weight was less than

the amount which was billed against the receiver, or that it was understated to the railroad in order to reduce the freight charges.

Farmers and other shippers charge that dealers often reject shipments with little or no excuse on a falling market, as discussed in another section. (See pp. 172-175.) Wholesale dealers, on the other hand, charge that farmers and shippers refuse to make delivery according to agreement if meantime the market price had advanced. There is no way of checking up accurately a farmer's acreage and yield. Cannerymen state that when the market price is higher than that named in the agreement, farmers often deceive them concerning the number of bushels or baskets per acre in the yield for which they have contracted. This was particularly true regarding tomatoes in 1917, when the market price advanced from 20 cents per basket, the price at which many contracts were made, to \$1 per basket.

"Cropping" their poultry before delivery is a practice charged against some farmers and shippers. This consists in overfeeding the poultry, getting them as full as possible of unassimilated food before they are weighed, or in feeding them meal filled with salt so that they will drink a pound or more of water. The purchaser thus pays for a half a pound to a pound of chicken which does not exist. The practice is doubly injurious, in that such overfeeding, especially in hot weather, causes a feverish condition in the fowls. They are unable to eat normally, so they rapidly lose not only the excess weight for which the dealer has paid but normal weight as well. They are unable to stand transportation in warm weather and do not recover until after a period of proper care and feeding. Dealers in Eastern markets who maintain their own buying offices and attend to their own shipments report that it is impossible in some districts to secure from producers poultry which has not been cropped. Although they have men accompany the poultry and give it all possible care on the railroad, feeding and watering properly from shipping point to destination, the loss in weight usually runs to 10 or 12 per cent and frequently more. The Government has attempted to stop the cropping of poultry at the terminals, but some dealers would have the evil corrected at the shipping point by forbidding the sale of live poultry with more than a limited amount of feed in their crops. Dealers who do not attend to their own shipment, but buy upon delivery, complain that much cropping is practiced in transit. In some markets dealers are attempting to control the shipper by refusing to accept poultry until the added weight has been lost.

Section 18.—Practices of commission men and brokers.

It is apparent, as previously noted, that marketing is constantly becoming less on a commission basis and more on a basis of outright purchase and sale. (See pp. 40-41.) But this is at least

partly due to the general advantages of the latter method for the producer or shipper rather than to any greater degree of sharp practice among commission men than any other class of produce dealers. In selling for acceptance and payment at the shipping point the shipper receives his money immediately upon the loading of the car, whereas on consigned goods he must wait until they have arrived and been sold, and the sales report has been forwarded by the consignee. Aside from the psychological effect of receiving immediate payment, it is a decided advantage to be released from the risk of transportation and possibility of rejection at point of destination. A Pacific coast shipper of apples estimates the advantage at 3 cents a box from an insurance standpoint, while frequently the price realized in many cases not only equals but surpasses that which can be obtained on sales made in transit or upon arrival in the large centers. The producer who sells for cash at a fair price is always satisfied and will grow another crop. The cash buyer is better posted on the market conditions in various cities, whereas the producer shipping goods on consignment may send them to glutted markets and lose heavily.

A produce shipping firm of Wisconsin states that its experience of 15 years leads it to the conclusion that commission men should by no means be blamed for all troubles which occur. Products of high quality and honestly maintained uniform standards, coupled with an intimate knowledge of the various markets, have permitted this firm to market its products through only a few representatives; and whether the goods moved directly for cash f. o. b. shipping point, were sold on a straight commission basis, or were sold subject to inspection upon arrival (the last two methods being those usually employed), the results were practically the same. Some Georgia fruit dealers report that in their experience selling for cash f. o. b. shipping point nets them less money than shipping their peaches on consignment. But this firm is exceedingly careful to send only the best quality of fruit and to ship to commission dealers known by previous experience.

While admitting that there are some dishonest dealers in their line, commission men themselves feel that most of the friction is the fault of the shippers, who charge sharp practice against any firm which does not net for the shipper what he expects. They feel that unsatisfactory returns can be attributed more to ignorance on the part of the shippers than to dishonesty on the part of commission men. They assert that complaints come from shippers who are not posted on markets in general and the special requirements of the markets to which they ship; consequently they do not know how to prepare their shipments to secure the best market prices. A New York dealer mentioned a car of poultry which had recently

arrived in poor condition and which naturally sold at a reduction from the market price. The shipper, however, could not be convinced of the poor condition of the shipment, and the commission man expected to lose that shipper's future business.

However, some producers and shippers report dishonest methods among commission men, and some assert that they have lost money in everything they sold through this method. Produce firms in Wisconsin report that representatives of commission houses have called on them during the flush of the butter season, inspected the goods held in their cold-storage plants, and pronounced the goods "extras"; but after the goods had been shipped to the commission houses in Chicago, the commission houses sent returns on "seconds." In addition, there is always a large shrinkage reported. However closely a shipment of butter is weighed at the shipping point, the produce firms assert that the commission men always report a weight somewhat less than they themselves have recorded. Such firms feel that if their goods could be shipped to a market in care of a Government agent who would weigh and inspect the goods before turning them over to commission man, wholesaler, or broker, the results would be more satisfactory. At least much criticism and friction would be avoided. The shipper is generally in a position where he must accept the returns offered him without opportunity to check up the facts, hence he can seldom prove that he has not received just and fair treatment. Some shippers of live poultry report a disposition among commission men to pay more attention to the interests of their customers than to those of the shippers they represent. If a situation arises in which the interests of their shippers and customers are in conflict, they appear to favor the local customers. The shippers believe that this is because most live poultry is largely sold to a class of dealers who could not stand a heavy loss, so in order to protect themselves the commission men throw the loss on the shippers instead of these dealers.

It is apparent that most well-established shippers who endeavor to get their goods out in high-class condition have relations with good, responsible commission men with whom they have been doing business and in whom they have confidence. But it is equally apparent that in every city there are some commission men who prey upon new concerns before they learn the markets and the relative reliability of the various commission concerns. These commission men make a special effort to watch for new shippers and, in order to induce shipments, quote very attractive prices. When the shipments arrive they generally report shortages, bad condition on arrival, or decline of the market, to account for small returns reported, until after considerable loss the shipper learns from experience to know these men. If the grower or shipper is not too susceptible to the market quota-

tions put out by irresponsible concerns, his chances of loss can be reduced to a minimum.

False returns are not always a matter of dishonesty. The commission business is fairly easy to enter and there are some incompetents in it. The dealers claim that it is not always possible to tell what the farmer, or other person for whom the commission man is acting, is really entitled to receive without a well-handled accounting system. Many of the men in the business seem unable to provide this. There is commonly a great rush at certain periods of the day, and as a result it happens that records are not made when they should be, and the commission man must rely on his memory. Mistakes are made, and upon the whole they are not likely to be against the interest of the commission man who makes them. Such methods of accounting, moreover, offer special temptations to fraud, particularly if a man is hard pressed financially. In some cases, however, mistakes are genuine, and one unusually conscientious commission man is reported to have become insolvent because of the unduly favorable reports he made to the men he represented.

The most common case of making false returns, aided, in some cases perhaps, by this inaccurate system of accounting, occurs when the commission man sells a small part of a consignment at an especially good price. He will in such case sometimes make to the man he represents a return showing that all the goods were sold at the lower price at which the greater part of them were actually sold. He may satisfy his conscience by arguing that the especially high price was due to special activity, effort, or ability on his part. It is said by dealers that in former days all commission men, if they were fortunate enough to get \$2.25 a package when the prevailing rate was \$2, considered the 25 cents as their perquisite. Better knowledge on the part of shippers and Government regulation during the war make this more difficult now.

Shippers generally can not report definite cases of false accounts, since they are not in a position to verify their suspicions. A commission firm in Philadelphia wrote shippers in Vinemont, Pa., in August, 1918, that pears were selling from \$8 to \$10 per barrel; in response to this advice 105 barrels of Bartlett pears were shipped on August 21 and 51 barrels on August 23. Upon receipt of returns, the shippers found that the commission firm allowed them from \$4 to \$6 per barrel and charged a commission of 10 per cent for selling. The commission firm made several explanations for the smaller return, stating that the pears were not of as good quality as they should have been, that the railroad company had shipped them to Noble Street, which was a poor market, etc. The shippers in such cases can not easily determine whether the returns are false or not.

A shipper of eggs from Indianapolis was induced to ship a car of eggs to a commission house in New York City by the statement that if he would consign the house a car of eggs it would guarantee to net him more than any other house with which he had been dealing and would pay a draft for a reasonable amount upon shipment. After a personal interview and exchanges of wires, a car containing 345 cases of eggs was shipped on April 17, 1917. Upon arrival of the car, the commission firm claimed the eggs were not what it had expected. After holding the eggs in ordinary storage for some time and allowing them to deteriorate by not properly protecting them, the firm sold them at a heavy loss, and the shippers were requested to reimburse the commission firm for what they claim was an overdraft of \$1,145. The loss to the shippers amounted in all to about \$1,400 on this car. This was due to over anxious commission men willing to guarantee anything in order to get business, and ready to deny everything after goods are received; it was due also to the shipper's susceptibility to the lure of promises and his willingness to leave tried firms on the chance of bigger returns.

A shipper at Burnside, Ky., reports a somewhat similar situation with this same commission firm in New York. A shipment consisting of 570 cases of eggs was shipped on April 26, 1918, from Burnside. The shipment cost the shipper \$4,872.42, and the net returns from the commission firm amounted to \$4,685.25, a net loss to the shipper of \$187.17. Upon arrival the car was reported in bad order owing to damage in transit. The commission firm, upon advice of shipper, had a considerable part of the shipment repacked in order to eliminate the broken and damaged eggs. When the eggs were sold the market was at a point where the shipper was able to sell his eggs at 38½ cents f. o. b. shipping point, yet the commission firm reported the car sold in New York at an average of 33 to 34 cents, less freight and commission. The commission firm claimed this price was due to the damaged condition of the shipment, but since it had been repacked and the broken and damaged eggs eliminated the shipper felt that the shipment had been sacrificed to the extent of 4 or 5 cents per dozen. Since the shipment had been handled on a commission basis, the shipper had to accept the returns and close the matter.

An examination of the books of a New York commission firm by a representative of the Federal Trade Commission showed returns made to shippers of turnips from July 16 to July 22, 1918, to be uniformly rendered at \$2.50 per barrel, while details of sales indicated that prices received were \$2.65, \$2.75, and \$3.

Some shippers report that when they send goods on consignment and the market is advancing they get returns on the sales much sooner than they are due, while on a declining market returns are always several days too late. In this way the shipper seldom receives

the benefit of the full advance in the market and always suffers the entire loss due to the decline.

The first dishonest returns received by a shipper may not be too small, but may, in fact, be greater than the amount to which he is entitled. This is often the case with irresponsible commission men who come into the market without any clients. They note the names of shippers from the goods on wagons or elsewhere, write praising their goods, and offer to sell at a better price than the shippers are receiving. Getting a client in this way, they sell his goods and report to him a sale at a high price. This transaction represents a loss to the commission man, but he may even repeat the reporting of a price higher than was actually received. The shipper may receive very little or no return from later shipments, however, so that in the end it is certain to be a loss.

Commission men themselves, as well as shippers, report that under certain circumstances commission dealers buy on their own account the goods sent to them on consignment. Acting in good faith as representative of the shipper, and obtaining for him the highest possible price from the purchaser, is obviously difficult when the representative is himself the purchaser. Generally the commission man will sell to himself on a rising market only, whereby he is certain of a profit from the rise, in addition to his commission. In such case he makes return on the basis of the market price when goods arrived. If the market is falling or the goods are likely to deteriorate before a resale can be made, he is more likely to sell on commission. This may be sharp practice, but is not necessarily so, provided the producer is made fully aware of the facts and knows in advance that the dealer to whom he usually sends his goods may act as commission man at times instead of merchant. In some cases the dealer simply will not buy outright if he thinks the markets are not favorable, and the farmer has the choice of having goods sold on commission or not at all. Nevertheless the practice of a commission dealer buying on his own account goods shipped to him on consignment is fraught with danger.

In defense of the practice it is said that the desire on the part of the farmer or shipper for quick returns of sales is often the reason why the commission man sells to himself. He reports at the market price, expecting to sell the goods in the near future at such price as will at least show no loss for him; and it is claimed that this is often done for the shipper's interest, in order to make a prompt return. But it is clear that if his purchase proves unprofitable, he is very likely to purchase other goods at such a price as to equalize the former loss, unless he is unusually honest. The commission man may have disposed of 90 per cent or more of the goods from a car, and the shipper is pressing for settlement. If the produce is being

sold from the car, the free time may expire and demurrage charges would be added to the expenses. In such cases the commission man may purchase himself, that is, assume the risk of reselling, and make his report of sales with this final 10 per cent sold to himself entered at what he considers a fair price. If the market rises, he may make an extra profit; if it falls, or if there is difficulty in finding customers, he may lose.

Some dealers report the character of their sales to be such that it is impossible to do a regular commission business. One company reports that commission men in its market who handle and sell poultry and eggs at wholesale, i. e., in carload or other large lots, receive 5 per cent commission. This concern, however, sells some goods as a wholesaler, some as a jobber and some as a retailer direct to consumers, and there was no definite percentage basis on which it could settle regularly with all shippers. It had been its custom, therefore, to make a "net return price" at such figure as it considered just, without giving any details of sales made or expenses incurred. After the United States Food Administration forbade the net return reports without full details and made it obligatory that, before a dealer purchased for himself, the shippers should clearly understand that he planned to do so, such firms have either changed their business custom or have had their regular shippers give them in writing full power to purchase at what they may consider a fair price. Often goods sent on commission have to be resorted and repacked, which is a source of expense for labor, crates, barrels, etc. Dealers state that while it would be possible to keep a careful account of such expenses, so they might be openly deducted from the selling price, it would involve too much petty bookkeeping. Therefore they make a deduction from the price reported to the shippers. In such cases there is no actual sale to the dealer himself, although the reported price is not the actual sales price.

Commission men, as well as others, state that one may properly do either a commission or a merchandising business, but should not be permitted to do both. For example, a man may purchase 50 baskets of lettuce, either from a shipper or in the market, and at the same time receive another lot on consignment. If the market is good, all the lettuce can be sold at a fair price. If, however, the market is poor, the dealer will certainly sell first those goods for which he has paid his own money; and if any goods are spoiled they will be some of the consigned goods, the loss falling on the consignor. Commission agents at the Halles Centrales, Paris, are not allowed to engage in business on their own account, and it is said that because of this regulation the distant growers have confidence in their market methods.

In some cases the commission man will sell to himself the goods consigned, while leaving the farmer under the impression that he is actually selling to others. In some instances sales may be actually made and the report to the farmer be literally true; but the sale may be to an organization of commission firms who then sell at a considerably higher price. Another form of sale of consigned goods is reported which is at least open to the suspicion that the consignee was other than the true representative of the shipper. Goods were sold by the commission man on account of the shipper. The purchaser then left the goods with the commission man to be sold for the purchaser's account.

A western shipper reports an experience in which a broker forwarded an order, apparently from a bona fide purchaser, for a car of choice, recleaned, large, white beans, bill of lading to be sent with draft attached. The contract price was \$12.50 per hundredweight for 50,000 pounds f. o. b. shipping point. After shipment was made the market declined. A wire was received from the broker stating that from lack of funds the purchaser was unable to take up the draft, and requesting that he be released and the broker permitted to dispose of the car to the best advantage. The shipper refused, insisting the contract be performed, but was unable to get any settlement, finally being compelled to handle the disposition of the beans himself. Later the shipper learned that the alleged purchaser, who was the father-in-law of the broker, had been dead two years at the time of the supposed sale. It would seem that the broker in this case was "playing the market." If the market had advanced the shipper would have had no difficulty in making delivery, as the broker would have accepted the beans, taken up the draft according to contract, and disposed of the goods to his advantage. At the date of report, six months later, the shipper had been able to dispose of only one-fifth of the beans, these at a loss, and has been under expense for storage at a high rate, insurance, and numerous telegrams sent to various dealers.

Section 19.—Practices of wholesale dealers.

Unfair treatment of the shipper is by no means confined to the commission houses. The merchant, if he is not too scrupulous, may use a method by which he takes for himself any advantages of rise in the market and passes back to the shipper any losses from a decline. Some of the growers' associations, as well as other shippers who are large enough to insist on their own methods of distribution, sell to wholesalers only f. o. b. shipping point, receive their payment when the car is loaded, and assume no risk thereafter. If the goods are as represented when loaded there is no opportunity for the purchaser to pass back to the shipper a loss from any cause. But many

shipments are sold subject to inspection by the purchaser at point of destination. If the market is advancing the inspection is always favorable and the car accepted. If the advance is sharp, or there is indication that it will continue, even shipments inferior to the grade guaranteed will be accepted without complaint, since the price at the terminal market is now so much higher than when goods were ordered.

If, however, the market declined after the goods were purchased it has in the past been a practice in some markets for dealers to reject the car, refusing to accept the goods upon some excuse. Sometimes the reason alleged may be genuine and fair, but often it is a flimsy pretext to avoid accepting the goods and bearing the loss due to the break in prices. It then becomes necessary for the shipper to give the dealer whatever reduction in price he demands, dispose of the goods as best he can, or undertake a recovery at law. Generally the shipper is too far away to verify the dealer's statements about the condition of the goods, to make other arrangements for their sale, or to prosecute the dealer without great expense and inconvenience; and he often agrees to take the buyer's offer rather than throw the goods upon the market. In either case he has a considerably smaller return than he had a right to expect when making the sale, and the loss due to the market decline is passed to him. In many cases such rejections are in no wise justified, and it is said that there are some irresponsible firms which actually depend on allowances for supposedly poor shipments in order to stay in business. Considerable time is often lost while the shipper and dealer are adjusting the matter, during which the produce deteriorates. An enormous amount of food is said to have spoiled while these controversies continued. It is reported that some dealers refuse cars of produce, causing the railroads to dispose of them, and then have some commission man attend the sale and buy the car for the very dealer to whom it was originally consigned. He thus obtains it at a price below that agreed upon.

Various produce dealers' associations and exchanges have in the past provided inspectors who could be called upon to inspect cars under discussion, but shippers have felt that such inspection would tend to favor the dealer rather than the shipper. Recently the Bureau of Markets, United States Department of Agriculture, has developed an official inspection service, upon which any shipper may call if quality of goods is questioned. If the goods are found to be in accord with the grade and other conditions of the order, the dealer has been forced to accept. If some deterioration has occurred, or the goods are not up to the grade represented, the inspector may evaluate the goods and adjust the matter, thus saving further deterioration of the goods through delay and assuring each party of an unprejudiced

official decision. This inspection system has been so successful that dealers and shippers express the hope that it will be extended to shipping points, also that the right to call for an inspection may be extended to the receiver of the goods. Just such a system of inspection for potatoes was developed during the war by the United States Food Administration (see p. 23), but is now discontinued.

Among the cases of refusal to accept shipments which had been ordered is that reported by a producer in Waynesboro, Va., who shipped a car of apples upon order of a wholesale produce firm in Tampa, Fla., sending what was to the best of his knowledge exactly what was ordered. Upon receipt of the car the firm wired that the apples were not up to the standard and they would accept them only on a reduction of 40 cents per barrel. The weather was hot and the apples were in a bad part of the country for such weather, so in order to avoid the possibility of losing the entire shipment the producer allowed the reduction and took his loss. This same producer had a somewhat similar experience with a firm in Pensacola, Fla., in which he was compelled to make an allowance of 75 cents a barrel on his apples. The receivers had demanded an even greater deduction.

A broker, who until recently sold 400,000 to 500,000 bushels of potatoes annually, reports that this business proved unprofitable chiefly because buyers would refuse to accept when the market broke between the date of purchase and arrival of the goods. In one case he had sold in Canada for a growers' exchange a car of potatoes which was rejected because of a break in the market. Although the broker went to considerable expense to straighten out the matter the potatoes were finally sold for the freight. A Pittsburgh dealer reports that a few years ago one local receiver rejected 25 cars because of a break in the market.

Shippers in Los Angeles, Cal., report that in June, 1918, they received an order from a dealer in Albuquerque, N. Mex., for 1,800 pounds of perishable produce. The shipment was repacked, made in every way first class, and shipped in a refrigerator car via the Santa Fe Railroad. Upon its arrival the dealer rejected the entire shipment, alleging that some of the apricots were overripe, although there were only 15 crates of apricots in the car. The shippers were not notified of the rejection and did not learn of it until the dealer refused to pay the bills.

What appears to be one of the clearest cases of indefensible refusal to carry out a contract of purchase is reported by a shipper of eggs at Murray, Ky., not even a claim of poor quality being made. A dealer in Detroit, Mich., had purchased a car of eggs f. o. b. shipper's track at Murray, wiring confirmation after the shipper had accepted his offer. Before the car started the market broke heavily and the dealer wired refusing to accept the shipment, alleging, in

spite of the fact that he had wired confirmation after acceptance, that the shipper had accepted too late. Being too far away to bring suit conveniently, the shipper had to suffer his loss.

A very heavy waste of food from rejections is reported before Government inspection and control incident to the war. That many of these rejections were not defensible is indicated by the results in the case of inspected shipments. For example, a shipper of fruit in the Northwest reports that on August 17, 1918, he shipped 11 crates of Italian prunes to a dealer in Omaha, Nebr. The agreed terms were \$1.75 per crate, but after the goods were shipped the market fell heavily, so that when the prunes arrived the dealer refused to accept. He did not, however, notify the shipper, who learned of the rejection only through the railroad. The shipper took the matter up with the United States Food Administration, the goods were inspected, and the dealer was compelled to accept the car and pay for the goods as agreed. Had this occurred previous to Government control the shipper would have lost.

On August 24, 1918, a fruit shipper at Yakima, Wash., shipped a pool car of peaches to Seattle, one-half of the car to each of two firms. Before the arrival of the car the market had fallen. One of the firms accepted half of the carload as previously agreed, but the other rejected its share on the ground that the fruit was in poor condition. This firm, however, offered to accept at a reduced price. The broker representing the shipper called in a Government inspector, who reported that it was one of the finest cars of peaches he had ever inspected. The receiver was instructed to accept, and did so.

Brokers and manufacturers state that the taking of cash discount by dealers far beyond the period within which they are allowed is a very prevalent evil. It is chiefly a practice of small dealers. The manufacturers and canners feel that they must submit to the practice and accept the check sent in settlement or they may lose their customers. This causes the manufacturer to charge a generally higher price in order to protect himself against this loss, and eventually causes a higher price to be paid by the consumer.

In like manner dealers will accept shipment without protest, but in paying for the bill of goods will make claims for shortage and breakage, without any evidence being submitted, and deduct the amount from the check sent in payment.

Section 20.—Practices of retail dealers.

Some retail dealers order goods from the wholesaler or jobber and then refuse to accept them, returning them without attempt to justify this action or making unjust claims for damage in order to obtain the goods at a lower net price. When this occurs it is usually in the case

of shipments by wholesalers to out-of-town retailers. Most wholesale dealers sell f. o. b. point of shipment and a clear bill of lading should be conclusive evidence of the delivery of goods in proper condition, but unscrupulous retailers may make claims for goods damaged in transit, or refuse to accept shipments. This causes the wholesaler a large aggregate loss as well as often entailing a waste of the food.

Wholesale dealers report that loss and waste on rejected goods is at times a considerable item, since further handling and exposure are necessary during the return trip and the cost of handling is doubled. As a measure for conservation of food, it has been urged that all retail dealers should be required under penalty to accept perishable foodstuffs at destination and make such adjustments as may be justified with the wholesale dealer or the transportation company, wherever the fault may lie, thus preventing the actual waste and further loss which occurs if the goods are rejected or returned.

Some retailers have a custom, apparently well established, of returning canned products and other commodities and demanding that their accounts be credited with the amount of the purchase price. This is not the immediate rejection or return noted above, but may occur even after the transaction has been closed and the bill for the goods paid. It is decidedly wasteful, if not strictly unfair. Cannerymen are held responsible for swelled cans; but retailers take advantage of this fact and return goods as unfit and spoiled when the fault is really their own through careless handling and insanitary storage. If canned goods are going to spoil, this can readily be seen shortly after they are purchased, yet some dealers return goods after keeping them for six or eight months. In fact, one wholesale grocery company asserts that they have had canned fruit and vegetables returned after three or four years. This causes a loss to the wholesaler or the canner of the return freight, as well as throws back on him goods which are now unsalable.

Packaged goods sometimes are likewise returned on some trifling pretext, and many wholesale grocers feel that they must submit to this or lose their business to another wholesaler who will submit. Some retailers make a practice of selling their freshest goods in preference to trying to dispose of older stock. If a line of goods does not move as rapidly as expected, the retailer thus makes the wholesalers assume the loss due to his poor judgment in buying. Some of the canned and packaged goods may have become spoiled by being piled during months for display purposes in the retail stores. This is a factor in consigning enormous quantities of foodstuffs to the waste dump annually.

This practice has been encouraged by the custom, particularly of specialty food distributors, of putting out food products on consigna-

ment to retailers, as well as that of loading the retail merchant with goods upon the understanding that he can return them if unsalable. Such a practice tends to make the retailer careless in handling his goods and irresponsible in ordering, and conduces to waste of food products. The consequent loss which falls upon the wholesalers causes them to add sufficient to their prices to insure them against this, thus increasing the ultimate cost to the consumer with no compensating advantage.

Some retail dealers are exceedingly careless regarding the shipping containers used in sending them goods, failing to return such things as banana traps, ice cream tubs, bottles, milk cans, etc. It is claimed that if a conservation movement were started to make it a misdemeanor to destroy any returnable container or shipping package or cause it to be destroyed, or allow its destruction, thousands of dollars would be saved on the cost of labor and material put into such containers. Even when these are not destroyed, retailers often fail to return them promptly. This compels the wholesaler to add to the cost of doing business by having an unnecessarily large number of containers.

A practice confined to small, irresponsible dealers is that of making claims for shortage and breakage without furnishing any proof, and arbitrarily deducting the amounts of the alleged damage or shortage from the checks given in payment for the goods. While amounting to something in the aggregate, these deductions are individually so small that there is no recourse except to refuse to have further dealings with the perpetrator.

A much more common habit is that of insisting upon deduction of discounts after the period has expired during which discounts could be legitimately deducted. Wholesalers generally sell upon a basis of 30 days credit with a discount, usually of 1 per cent, for settlement in full within 10 days. The credit or discount period may be longer in some cases, some wholesalers allowing discount if account is paid in 14 days. Retail grocers allow their bills to run longer than the discount period, often to the full extent of the credit period or longer, and then claim and hold back the discount to which they were entitled for only 10 days. It seems as though most wholesalers feel that they must allow this or lose customers to other dealers who will permit it. They frankly state that this practice naturally compels them to ask a little higher price in general. Some wholesalers have effectively broken up this and other practices, by refusing absolutely to accept returned goods or to allow any discounts whatsoever except strictly according to terms of sale, and refusing to sell goods thereafter to any retailer who attempts these practices. This position is, however,

difficult for a wholesaler to assume unless all others in the district do likewise.

Section 21.—Practices at fruit auctions.

Although the opinion is generally expressed that the selling of fruit by auction is efficient, with little waste and a minimum expense, there is some criticism of auctions and of certain methods in connection with them.

It is contended that private sale of fruit would tend to maintain a more uniform price, since the auctions overemphasize the influence of both supply and demand, with resultant wide fluctuations in prices. For example, at one time in 1918 lemons sold at auction as high as \$11 and \$12 a box, a price which dealers claim could not have been obtained under a system of private sales. These high prices brought in a larger supply and caused a falling off in demand. The price dropped to \$1.50 and \$2 a box, only about sufficient to pay for packing and freight charges. This meant a serious loss to the shippers and to those dealers who had bought a supply at higher prices. It is claimed that under a system of private sales the price for lemons would have remained about \$4 or \$4.50 a box during the entire summer. With this steady price the shippers would have been more certain of profitable returns, while dealers would not have lost money because of the alternate boosting and breaking of the market by the auction.

Certain of the large fruit distributors will not sell at private sale to dealers in cities where auctions are conducted. It is stated that the refusal to sell privately is absolute, no matter what price the dealers offer for the products. The result is more intense competition at the auction and a tendency to force higher prices there. This naturally makes it easy for the distributors to manipulate prices by increasing or decreasing the supply; and some dealers allege that by keeping the supply in New York somewhat below the usual demand the distributors make artificial high prices. In their private sales in cities where there are no auctions the distributors then sell most of their goods with the proviso that dealers are to pay whatever is the New York auction price. A somewhat similar manipulation is reported regarding a fruit importer who advertised large quantities of pineapples to be sold by auction. He put up for sale only a small amount, evidently intending to dispose of the balance to his customers in interior cities upon the basis of the price received at the auction—where he had stimulated interest for a large demand and had intentionally provided a limited supply.

It is alleged that at some of the auctions the buyers attempt manipulation by getting together and agreeing not to bid against one another or by delegating one man to buy for all parties to the agreement.

Some fruit brokers complain that certain auctions are unfair in that they show favoritism for the fruit of certain large distributors. This is done by offering their fruit for sale first more than half the time. The advantage lies in the fact that a large number of buyers congregate at the opening of the auction and as soon as their needs have been satisfied they depart. Therefore, cars of fruit which are sold late do not get the benefit of so many potential buyers. Consequently the price realized for the shippers of these cars tends to be somewhat lower. Brokers would have the auctions adopt a plan by which consignees would take turns in being first to sell; but they allege that the auctions are unwilling to displease their largest customers or are in some manner tied up with them. The latter would appear to be the explanation in the case of some of the auctions at least, since the auction company is owned or controlled by the firm which represents the large shippers as their local consignee. Some dealers claim that this favoritism goes to the extent of charging different rates of commission to the various consignors of fruit.

It is charged that the auctioneer sometimes shows favoritism to certain buyers by accepting their bids and knocking down the goods to them when other buyers are willing to bid higher prices to secure the fruit, and that he often boosts prices by means of false bids.

Dealers also assert that it has been a common practice for the consignor of the goods, or his representative, to bid up the price of the goods at the auction. Justification of this is claimed on the ground that the practice is at times necessary to prevent the seller from sustaining large losses; but dealers feel that this could be more fairly accomplished by openly withdrawing the goods if proper prices are not being obtained.

Another practice which is reported is that by which the broker representing out-of-town dealers receives compensation from the seller for aiding in boosting the auction price. For instance, it is said that if an importer has consignments of lemons listed for sale, he may go to a broker known to have buying orders and offer him a personal rebate of 10 cents a box if he will buy these lemons, bidding whatever is necessary to get them. The seller may perhaps provide a dummy bidder to bid the price well up. Thus the owner of the lemons realizes so much that he can well afford the rebate. The broker receives his commission from the dealer for whom he buys, and in such case collects from the seller also. It is stated that after the control of the Food Administration became effective this practice was discontinued, because of fear of losing licenses.

It is charged that formerly the importers of foreign lemons often doctored the samples upon which bids at the auction were made and that considerable loss was frequently experienced from goods being inferior to the samples on which purchase was made. Conditions

are now reported very much better than formerly, as the dock committee of the New York Foreign Fruit Exchange now inspects imports and sees that samples are opened fairly.

Other practices of which complaint is made are the collection of a terminal charge and of a delivery charge. Several of the auction companies which have a monopoly of the auction sales in their cities have recently assessed upon the buyer, in addition to the $1\frac{1}{2}$ or 2 per cent commission received from the seller of goods, a so-called terminal charge. This is arbitrarily fixed at 5 cents a package on fruit regardless of the size of the package or the price it brings. That this terminal charge is a heavy additional burden on the marketing of the fruit is well demonstrated in the case of one auction company, the Baltimore Fruit Exchange, whose books were examined. With a paid-up capital of \$11,000 this auction company in 1917 had an income of \$69,800.21, of which \$38,308.45 was obtained from this 5-cent terminal charge. Certain auctions also make a charge for delivery, even if the buyers haul the goods away. Buyers who themselves take away the goods are entitled under the rules of the auction to a credit, but if it is not definitely asked for it is not deducted from the bills.

Section 22.—Speculative and monopolistic dealers.

In a broad use of the word any man who invests his money, time, or labor in any phase of the perishable food business is a speculator to a greater degree than are dealers in many other lines. The producer whose uncertainty regarding future weather and market conditions is very great, the shipper who sends his goods on consignment, the wholesaler, the retailer, even the commission man, all assume a speculative risk as previous sections of this chapter have indicated. Likewise dealers who store goods merely for their usual trade requirements are speculators since they will lose if the price level does not increase sufficiently to bring repayment of original cost, of storage charges and of interest on money invested. But such speculative operations do not cause an appreciable loss to other persons or add an unfair charge to the cost of the goods.

In the more usual and narrower sense the speculator is one who adds a charge to the cost of food without giving any service commensurate with the profits he makes. He does not buy goods solely to protect his expected business against probable demand and increased cost of goods. He withdraws large amounts from the available supply and thus aids in forcing prices to a higher level where he may unload at an excess profit. He has given no service for this profit, but has merely made it more difficult, if not impossible, for the regular dealers to obtain their usual supply of goods through the customary channels of trade.

Sometimes a regular produce dealer becomes a speculator in this narrower sense. He may see an opportunity for large speculative profits in some foodstuff in which he may be a large factor in creating an artificial shortage. Under these circumstances such a dealer purchases or gains control over as large a surplus as possible, in addition to the amount he is likely under any probable circumstances to need for his own business. This surplus he holds out of the market for the enforced rise in value, when it may be disposed of at an advanced price. Such speculative dealing holds a part of the available supply out of the natural channels of trade, and an early and unnatural shortage is produced. Thereupon the legitimate dealer finds himself unable to supply himself from his accustomed sources and is compelled to turn to the speculator and pay the prices demanded in order to care for his regular trade. Even though the speculator's profit may not be a large per cent of the value of the goods, such speculators are unnecessary middlemen and their profit an unnecessary charge in marketing. All such false bases for settling the market price, instead of a free and uninterrupted basis of supply and demand, put an added charge upon the consumer, give the producer no greater returns, and force hardship on all legitimate dealers. Dealers who perform the very essential function of carrying stores of food from times of plenty to times of scarcity, without manipulation of price through manipulation of supply, and who receive as recompense all costs of carrying and proper returns for the risk assumed should not be confused with such speculators.

While there is some speculation in fresh fruits and vegetables, there is not so much as in other goods, due to the fact that most of these are highly perishable and can not be kept for long periods. For example, pears and peaches have their flavor changed by being placed in storage for even 10 days. Manipulative and monopolistic practices of the speculator are, however, found in regard to canned fruits, dried fruits, and other such less perishable lines. A case was reported in which a wholesaler was about to close a deal to buy Jersey pears from a canner at a certain price. A speculator learned of it, bought the entire output of the cannery, and forced the wholesaler to buy of him at a 20 per cent advance in order to get these goods. Such an added cost necessarily means a much higher price to the retailer and consumer, or a heavy loss to the wholesaler.

Similar in effect on the consumer is the practice of certain large firms, especially some of the big meat packers, who attempt to control all or a large part of certain lines of canned goods. To do this, they purchase the canneries or secure their entire output on whatever terms may be necessary. As a result, wholesalers often find it difficult, if not impossible, to secure the usual line of goods for their trade, through the regular channels, and are compelled either to turn

to these concerns, paying the price they demand, or to give up handling the goods.

Similarly their practice of offering whatever price is necessary to secure a shipper's entire shipment of poultry, eggs, etc., takes away the usual source of supply of the dealer who can not afford to meet such offers when he can not expect to make his own selling price and must at least break even. Such speculative dealers often monopolize, or attempt to monopolize, the greater part of the crop in some kind of food, eliminate long-established brands from the market because of the artificially created shortage of raw materials, and then, when everyone is wondering what has become of the crop, these dealers bring forth some new line practically compelling the dealers to handle this new brand or handle none. Such speculative cornering of crops is reported in the matter of peanuts, by which the price of peanut butter to the consumer was greatly increased; also in tomatoes, beans and rice.

In 1918 Armour & Co. attempted to buy from the producers' organization about one-third of the entire crop of seeded raisins to be put up under its private brand. Had this attempt been successful, Armour & Co. would have performed no extra service, merely handling these under its own brand, duplicating the distributing agencies of the producers, and furnishing identically the same goods as those under the producers' brand. Withdrawal of so huge a quantity, as was here attempted, of any product from the usual channels of trade necessarily produces an apparent shortage of supply and an increased market price.

One of the difficulties fruit and vegetable dealers encounter in marketing their products comes from irresponsible speculative competition. Much food is wasted and lost by the overbuying and speculating of incompetent dealers who receive more goods than they can market, or store and care for, in a reasonable time. They demoralize the market by selling at less than actual cost or without a sufficient margin above cost to pay overhead expenses. Merchandise, such as crates, boxes, paper, and in fact all expenditures for putting goods in shipping condition are given slight consideration by these men. They often keep no records and, having no idea of cost accounting, they have no adequate method of making prices. Many of them do not understand or figure normal shrinkage in weight or loss by decay. The result is frequently an intolerable demoralized condition of the market which adds to the general cost of doing business and is sooner or later reflected in the prices paid to the producer or charged the consumer.

In most markets there are small firms composed of men who have a little capital and desire to change their status from that of employee to that of independent business man. Some of these, having

ability and character, conduct their business upon proper methods, however small the extent of this business. Others act upon the idea of making a "clean-up" by speculating in some promising line, but with inadequate capital they more often lose. Such concerns not only demoralize the market and injure more substantial firms, but may resort to questionable methods in time of stress, and join the ranks of those who have caused produce dealers to be looked upon with suspicion.

In some cities complaint is made that there is difficulty in selling goods and maintaining a fairly reasonable market condition through the fact that the railroads permit peddling from cars by agents and use of cars for warehouse purposes. For example, a firm in Duluth, Minn., reported that the previous week prices in the auction markets, such as St. Paul and Minneapolis, had been very low, so that it was possible for out-of-town men to load mixed cars of goods from these auction markets and bring them into such a market as Duluth, whose merchants buy f. o. b. shipping point, with practically no expense, underselling the local men and demoralizing conditions. The local firms are in business the year round and must carry supplies for the purpose of provisioning the territory, carrying the big expense of warehouse, delivery, equipment, etc. The other man, having no interest in the community, merely loads a car on a broken market, runs this into a small market when opportunity for a "clean-up" appears, and is permitted to hold the car as a salesroom and warehouse. At such times the regular dealer may lose heavily. Such losses tend to pass on later to the consumer when the dealer sees opportunity to recoup.

Combinations of growers, of distributors, and of packers are alleged by many dealers to boost prices by means of manipulation and control of supply to a point beyond the price level which would result from normal unhampered supply and demand. Whether such allegations are in all cases justified, it is evident that in the case of some fruits and nuts a single organization has so large a control of the distribution of the goods that it has to meet only a limited and practically negligible competition. Under such circumstances it is necessary only to place the price at the most advantageous point. A price level must not be forced so high that there will result a consequent falling off of the demand below the point which will cause the disposal of the goods. If this were done, the producers whose goods were not sold would seek other means for marketing. The price, therefore, must be just low enough to move the goods and to do so without any fear of competition.

Some of these organizations market their products under arbitrary conditions, which the buyer must accept, or else he must give up handling the goods. Among such conditions is that requiring the

wholesaler or jobber to place his order for future deliveries months in advance of the season, agreeing at that time to pay for the goods whatever the distributing organization may later announce as the opening price. When it is not known what the price may be, gauging the demand which it will stimulate is exceedingly difficult, and this uncertainty is thrown entirely upon the dealers.

It is alleged that various methods are often used to give an appearance of fixing prices through open trading where the distribution of a line of goods is chiefly in the hands of one distributing organization, whereas the organization in reality uses manipulative methods. Thus fruits are sold only through the auctions in certain cities, and it is charged that the supply sent to these cities by the distributors is usually held at a point below the expected demand in order that the price realized shall be unnaturally high. The distributors then make contracts with dealers in other cities to supply them with fruit at whatever prices may be realized at these auctions. Another method reported to be pursued in order to give a color of legitimacy to a high price is said to be employed by a distributor of southern fruit. This organization contracts in advance for hundreds of thousands of boxes of oranges, peaches, or other fruit. When the crop is ready to move this concern buys a limited number of oranges at an advance of perhaps 50 cents a box over the average contract price in order to establish a fictitious market price. This not only aids in raising the price at which they sell, but practically sets the price which any other firm buying a few cars for its regular business must pay the growers.

It is likewise alleged that in the case of certain goods which are not controlled by a single distributor, the two or more large distributing concerns have an understanding about the allotments which each shall receive from the different growers' associations and about the prices to be charged. Prices in such cases are identical for the same grade and kind of goods. Similar arrangements appear to dealers to be made by the packers of canned goods, who hold meetings of the packers' association for the ostensible purpose of discussing the cost of containers, packing, etc. It is said that within 24 hours after such a meeting all of the members of such an association are asking the same price for the same class of goods.¹

Similar meetings to fix prices are reported among shippers of grapes, plums, and prunes in certain districts. Identical prices are quoted to buyers by several such shippers, and it is charged that so complete is the combination in some districts that if a buyer rejects a car of any shipper, whatever justification may exist for rejection, he is blacklisted and can not thereafter buy goods from others in the combination.

¹ See Report of the Federal Trade Commission on Canned Foods, May 15, 1918, Ch. V, sec. 8.

CHAPTER IV.

METHODS OF HANDLING WHOLESALE FOOD PROBLEM.

Section 1.—Needed improvements in business.

The reduction in the cost of the wholesale marketing of food products and the elimination of wastes, monopolistic tendencies, and unfair practices can be accomplished only through the establishment of better marketing facilities and a change in the present marketing methods whereby the goods will pass through free and open wholesale channels and flow more directly from producer to consumer.

All wholesale food dealers should be located at central terminals where for carrying on their business they have the use of adequate storage-market facilities. Such centralized storage-market facilities would put all dealers on the same basis in reference to the use of facilities and the nearness to the trade, would eliminate the excessive cartage and undue exposure of the goods, and would simplify the wholesaling and thus reduce the expenses and wastes.

The practices and methods in the trade need to be standardized and the air of suspicion cleared up. That is to say, uniform containers and grades in all lines need to be established; contracts and understandings under which business is carried on ought to be made more uniform and nondiscriminatory for all markets and all dealers; complete market information should be made available to producer, wholesaler, retailer, and consumer; producers and shippers should be assured that they will be treated fairly, whether they sell their own goods or have them sold by professional wholesale dealers; and the monopolistic tendencies and restraints in the wholesale food trade, as characterized by the growth of the big meat packers, and others, must be eliminated. This may be done only through public regulation of the business.

The accomplishment of these objects is of such public importance as to justify and demand the exercise of the Government's powers.

Section 2.—Different methods of dealing with problem.

There are several ways in which to deal with the wholesale food problem.

INITIATIVE OF DEALERS.—The public may desire to depend on the wholesale dealers themselves to improve their marketing facilities, methods, and practices, and to standardize the trade. However, the

history of the food trade is such that the adoption of this method of dealing with the problem promises slow and small improvement. As the trade developed, the costs of carrying on transactions and the decay and deterioration of the goods have continued to increase rather than decrease. The facilities in use have become more inadequately suited to the business. The methods and practices have become more complicated rather than simpler, and monopolistic tendencies have developed.

The way in which the facilities needed for the efficient conduct of any kind of business are provided has an important bearing not only on the success of those engaged in it but also on its competitive character. If the matter is left to the dealers themselves, it is easily possible that the best facilities will be available only to very large or even to monopolistic concerns. Economic conditions, however, may upon the whole be unfavorable to large-scale operations, and, in any event, public policy is opposed to private monopoly. If, on the other hand, the needed facilities are provided by the Government, or under its regulation, they may be available to small as well as to large concerns. Under such conditions competition may be maintained on a healthier basis, and, at the same time, the work be done at a lower cost than would otherwise be possible.

NO IMMEDIATE RESULTS THROUGH COOPERATIVE ASSOCIATIONS.—A second and often discussed method of handling the food marketing question is through cooperative marketing associations. In regard to many perishable foods, much improvement has already been accomplished through the cooperative shipping associations organized by the producers in the shipping of products to the wholesale markets. With the right kind of laws and encouragement on the part of the Government, doubtless much more improvement along this line would be made. However, so far, the producers' cooperative shipping associations have done practically nothing in improving the facilities, methods, and conditions in the wholesale marketing of food products. These shipping associations sell their products to or through the wholesale dealers in the consuming centers just as do the private local shippers. They, in every way, take the "trade" place of the private local shippers.

Conceivably, consumers' cooperative associations may do much to improve both retailing and wholesaling of food products. They have done much along this line in England. However, in the United States there have been few successful consumers' cooperative associations organized, and a less number of them have attempted to become wholesale dealers. In order for such associations to appreciably influence the wholesale marketing of food, they must first have control of a material proportion of the retailing of foods. Certainly it

will be a considerable time before they reach such a magnitude in this country.

STATE AND MUNICIPAL ACTIVITIES INADEQUATE.—Another method of handling the problem would be for the State and municipal governments either to furnish or to induce others to furnish better marketing facilities and through regulation standardize the trade methods and practices. Doubtless, much improvement in the wholesale marketing of foods and in the reduction of the cost thereof could be accomplished should all State and municipal governments vigorously take hold of the problem. However, by the adoption of such a method many serious difficulties and drawbacks would be encountered. In the first place, in the very large cities from 90 to 98 per cent of the wholesale-food trade is interstate rather than intrastate commerce. Therefore, State and municipal governments would be quite limited in the extent of regulation which they would be able to impose upon the wholesale food trade. If they should provide ideal terminal storage-market facilities, they could require only those dealers conducting an intrastate business to use these facilities.

Most of the States and municipalities would have difficulties in securing appropriations with which to provide adequate market facilities. Before this could be done some of the State constitutions and city charters would have to be changed.

Another difficulty connected with this method of dealing with the problem is the impossibility of securing standard regulations throughout the country through State and municipal regulation. Standardization of grades, containers, weights, and methods in the different markets is necessary if improvement in the wholesale marketing of food products is to follow. This could not be accomplished through State and municipal regulation.

FEDERAL ACTION ADEQUATE.—The adequate and thorough method of dealing with the problem is through the action of the Federal Government. That the marketing of food is a national question was recognized in the establishment of the Bureau of Markets under the Department of Agriculture, which bureau was empowered to study the problem of the marketing of food products, and also to administer certain regulative measures, such as grain and apple grading laws. Further indication that the problem is recognized as Federal was shown by the fact that upon entrance of the United States into the World War the United States Food Administration was established to prohibit profiteering in food products and to prevent waste thereof. Many of the regulative measures adopted by the Food Administration were beneficial in eliminating unfairness in the trade and also in the establishment of a less expensive line of

trade from producer to consumer. The Food Administration did not attempt to improve physical marketing facilities.

The problem is a national one because trade in food products is national and international in scope. The Eastern cities get the bulk of their fruits and vegetables from the Pacific coast, the West, and the South; they get their meats and poultry products from the Southwest and Middle West; their wheat and corn products from the Northwest and West; and even their dairy products come from farms hundreds of miles, and sometimes thousands, from the cities. More than 90 per cent of the food which enters the large cities has been transported in interstate commerce, and even the greater part of the food which is consumed by people in the smaller cities and towns has passed through interstate commerce. On the whole the average distance between the producer and consumer of food in the United States is probably more than 1,000 miles. The extensiveness of the trade is such that it can be adequately regulated only by the National Government. Only through national action can uniformity be attained and wastes, monopolies, and suspicion be eliminated.

In dealing with the problem the Federal Government, through some agency, should furnish or require or induce others to furnish adequate terminal storage-market facilities in wholesale centers, which facilities all the wholesale dealers in highly perishable products should be required to use in carrying on their business, and which all other wholesale food dealers should be permitted to use. The services and charges should be the same to all dealers who use these facilities. Also the Federal Government, through some agency, should so regulate interstate commerce in food products as to standardize the grades and containers of the products as well as the methods of carrying on the business; eliminate monopolistic tendencies; and open up a more direct line from producer to consumer.

In the following sections are discussed in detail the above suggested activities of the National Government in connection with the wholesale marketing of food products.

Section 3.—Description of proposed marketing facilities.

CENTRALIZED FOOD TERMINALS.—In each city and large town, through the action of the Federal Government, each railway, electric line, and steamboat company should be required to unload all incoming and receive all outgoing food products at a central terminal.¹ So far as possible this central terminal should be located where it is most accessible to the retail food trade. In each case the food terminal should be so located, and the ground space occupied by it should be sufficient, as to permit the construction thereon of docks and switching tracks, storage, manufacturing and marketing struc-

¹ Probably the cities of New York and Chicago each would need two or even several centralized food terminals.

tures, and driveways necessary to accommodate the wholesale food business of the particular center. Each common carrier entering a city should be required to make permanent and adequate transportation connections with the centralized food terminal.

STORAGE—MANUFACTURING—MARKETING FACILITIES.—As a necessary part of each central food terminal there should be constructed dry, heated, and cold-storage building or buildings large enough to take care of all the food products requiring storage at the center at which the terminal is located. Extending from the storage building or buildings and leading to the car tracks and piers should be constructed inclosed, cooled, and heated platforms for the loading and unloading, without exposure to the weather, of perishable food products.

When received at the terminal no dealer should be allowed to remove from the terminal storage any perishable food products except for immediate delivery to the retail trade or reshipment to another wholesale market. The maximum length of time which each perishable food product is permitted to remain in the wholesale storage should be definitely prescribed. The foods in this class are: All fresh meats, dressed poultry, eggs, butter, cheese, and fresh fruits and vegetables of all kinds.

With such terminal storage facilities and regulations, with date of storage and price on that date required on all stored foods, practically all the losses from deterioration and decay in the wholesale market would be eliminated. It would also prevent much of the speculation now due to uncertainty of the quantity and quality of perishable goods in the market, because accurate storage figures would then be public property.

As a part of each food terminal there should also be provided space and machinery for preserving, canning, dehydrating, and manufacturing all food products passing through the terminal which would otherwise materially deteriorate or decay before they reached the retail trade. This would apply to over-ripe, bruised, frozen, or overheated fruits and vegetables, broken eggs, rancid butter, and improperly iced meats and poultry. It would also apply to all surplus food products passing through the terminal. These preserving, canning, dehydrating, and manufacturing facilities should be a part of the terminal facilities and should be operated upon a rental basis by private parties under Government inspection and supervision.

By the provision of proper methods in the wholesale trade for the utilization of surplus foods which would otherwise deteriorate before they could be consumed, many tons of palatable and wholesome food would be saved for human consumption. It would also tend to stabilize prices to both producers and consumers. The pro-

ducer would thereby have assurance of more reasonable prices for his products when they arrived at the market in subprime condition; the consumer would be assured a more constant supply of food, which means more uniform prices.

As a necessary part of each central food terminal there should be, in connection with the storage and manufacturing facilities, adequate sales and auction rooms to accommodate the business of the wholesale food dealers at the center. These salesrooms should be rented to dealers and to producers or their agents on a uniform basis. Each food dealer (whether professional dealer, agent of farmers, or cooperative sales associations, or producer who sells his own goods) in every line would then have available to him storage-market facilities equal, and in most cases superior, to those which the big packers now have through their branch-house and storage system.

All wholesale dealers in fresh meats, dressed poultry, eggs, butter, cheese, and fresh fruits and vegetables should be required to carry on all their business in the sales and auction rooms provided at the central food terminals, and as already stated there should be some regulation of their storage operations. All other wholesale food dealers (those in canned, cured, dried, and packaged foods, and in flour, sugar, coffee, and other bulk nonperishable foods and food products) should upon a just rental basis be permitted, in carrying on their business, to use storage and sales space at the central terminal.

At each central food terminal, also, there should be set aside a certain amount of storage and sales space to be used by producers or their agents who seasonally or occasionally desire to sell their products at the central terminals. This would provide a direct trade channel for the producers at all times and would insure against the success of any combination that might seek to control the market.

The forcing of certain classes of wholesale food dealers to store their goods and carry on their business at the central terminals and permitting others to do so not only would protect the perishable goods from deteriorating and save large cartage expenses but would furnish a definite known market to which producers could ship for sale and one to which retailers and large consumers (or group of consumers) could go to buy. Such central markets would bring producers, retailers, and consumers in touch with a free and open wholesale market. They would eliminate most of intersales between wholesale dealers which are now necessary to move the goods through the decentralized, unorganized wholesale market. Through the central market the goods could pass from the producer, or his agent, directly to the retail or large consumer buyer, and in other cases it would not be necessary to have more than one professional wholesale dealer handle the goods through the wholesale market. The central

wholesale market would thus eliminate practically all food jobbers and speculators, and would greatly simplify the wholesale marketing system.

Any producer or shipper who desires to send his food products to a certain centralized market and have them sold at auction should be permitted to consign them to the manager of the market, or the Government agent, who, through a licensed auction firm, should have them sold and make the return to the producer or shipper. This would permit a producer to ship to and sell in a market without doing business with or even knowing a particular dealer in the market, and at the same time would insure the producer fair treatment.

The size, character, and location of each central terminal storage market would have to be determined for each city or town according to local conditions. The size, of course, would vary with the size of the center. The architecture and character of the building or buildings would depend partly upon the size of the terminal and partly upon area and topography of the site. The large terminals should have larger and more permanent structures. In every case care should be exercised to see that there are sufficient driveways from the terminals to cart the goods to the retail trade. Where there are water connections with a city the centralized terminal should be located near docks. Otherwise, where suitable locations can be secured, they should be situated as near the center of the retail trade as practicable.

There are a number of dealers who advocate some form of combination on the part of those who do the work of cartage. Some favor cooperation, either among the dealers themselves or between the dealers and the cartage companies. Others favor the establishment of a central office or distributing bureau. One or two favor giving the business to one regulated company. None of these plans, it will be noticed, necessarily implies the existence of a union terminal market or even of a centralized produce district. In connection with the establishment of a terminal market, however, arrangements might be made for a systematization of the work of delivery. This does not necessarily mean that the work should be given over to a single company. A central office would, indeed, be desirable, but it might be under the control of the management of the market or of a co-operative organization of the dealers. The actual work of cartage, however, might be done by a large number of independent truckmen.

Section 4.—Establishment of facilities through Federal Government.

The Federal Government may itself, through some Government agency, establish central wholesale storage markets, or it may see that the railroads (in private hands) do so, or it may through cooperation with State and municipal governments or with private indi-

viduals cause such central storage markets to be established. Or the Federal Government may use a combination of these methods in causing the establishment of the facilities.

THROUGH ITS OWN AGENCY.—In the Summary of its Report on the Meat-Packing Industry, the Commission recommended that—

the Federal Government establish through the Railroad Administration [its own agency] at the terminals of all principal points of distribution and consumption central wholesale markets and storage plants, with facilities open to all upon payment of just and fair charges.

The Commission also recommended—

That the Federal Government acquire such of the branch houses [of the meat packers], cold-storage plants, and warehouses [of meat packers and others] as are necessary to provide facilities for the competitive marketing and storage of food products in the principal centers of distribution and consumption.

The above recommendation was made with the idea that the Federal Government, in establishing central wholesale markets in certain centers, would find it practical and economical to take over some or all of the existing branch houses, cold-storage plants, and warehouses, and with additions and alterations convert them into suitable central wholesale markets for the wholesale food trade at those centers. In establishing wholesale markets in many of the small centers it would be found more economical to take over existing branch houses, cold-storage plants, and warehouses rather than to construct new ones, for in such centers the branch houses and cold-storage plants are generally located near each other in a central wholesale district and have adequate rail connections. Whereas in the large centers the branch houses, cold-storage plants, and warehouses are generally poorly located and are distributed over a wide area, and, therefore, generally could not be used as part of a central wholesale market.

There would be no interference with the meat packers in using for the distribution of their goods the branch houses taken over by the Government. They would then have adequate market and storage space in the enlarged and improved branch houses and storage plants used as central wholesale markets, open to all wholesale food dealers on equal basis.

The meat packers would be prohibited from using their present branch houses and cold-storage plants only in those cities where new central wholesale markets are established and where all wholesale food dealers in perishable foods are required to store their goods and carry on their businesses in these new central markets. But in such cases the packers would be provided with storage-market facilities as good as or better than the distributive facilities they now have in those cities. So the new central markets would improve rather than injure the distributive facilities available to the big packers.

The Commission in making its recommendations took account of the national importance of the packers' distributive system as well as the differential advantages which it gives them over others. Therefore it recommended not the tearing down of the packer branch-house system but the building up of a national marketing system on the branch-house principle; one which will give all dealers, including the packers, marketing facilities as good as or better than those the packers now enjoy. So the aim is not to destroy any efficiency the packers' distributive system may have, but to add to the efficiency of the national distribution of food products and to put all dealers on the same basis.

These central wholesale markets, when established, should, through some agency of the Federal Government, be controlled so that all food dealers who carry on their business in them shall have equal facilities at uniform charges. In regard to the operation of the public markets, the Commission in the Summary of its Report on the Meat-Packing Industry recommended:

The same to be operated by the Government as public markets and storage places under such conditions as will afford an outlet for all manufacturers and handlers of food products on equal terms.

The charges for the use of storage space and sales and auction rooms should be on a uniform basis to all dealers, and the Government should see that no dealer or set of dealers secures a monopoly of the central market facilities. In order to accomplish this the Government agency controlling the market facilities should rent to dealers on short-time contracts only the amount of storage and sales space necessary for the transaction of their business and should have the option of taking from any dealer rented space that he does not put to actual, efficient use. The market should be so conducted that anyone who desires to sell food products at wholesale may get accommodations in the central wholesale markets on equal terms with other dealers there, all requirements safeguarding the public having been met.

THROUGH THE RAILROADS.--For any reason should it be thought unwise to have the Federal Government itself construct the storage and business buildings at central wholesale markets, the Federal Government might require the railroads to unload all food products at a central terminal in each city and to build in connection with the terminal adequate dry, heated, and cold storage to take care of the goods. It might in each case also induce the railroads to construct, in connection with the terminals, the necessary office and sales space to accommodate the wholesale trade.

The Federal Government, under the interstate commerce clause of the Constitution, would have power to regulate the use of the rail-

road-owned central markets just as it has power to regulate the other interstate commerce activities of the railroads.

THROUGH STATE AND MUNICIPAL GOVERNMENTS.—The central wholesale markets may also be constructed through cooperation between the Federal Government and State or municipal governments. The Federal Government might furnish a part of the funds with which to construct the central markets on condition that the State or municipal governments supply the balance of the necessary funds and consent to certain provisions as to Federal powers over the operation of the facilities when completed. Such cooperation between National and State Governments is being successfully worked in the improvement of public roads. Under such a cooperative scheme the Federal Government would exercise its power to require the railroads to construct spur tracks to, and unload food products at, the central markets; and would also exercise its power of eminent domain in securing desirable sites for the markets.

Section 5.—Regulation of marketing methods through Federal license.

In order to be permitted to carry on interstate commerce in food products of any kind each dealer should be required to secure a license from the Federal agency which has control over the operation of the central market facilities. In case of violation of its terms the Federal agency should have power to revoke the license and prohibit further engaging in interstate commerce in food products on the part of the licensee. The provisions of the license should be such that the regulating Federal agency would have power to require each licensee to furnish full information concerning his business, and to follow certain definite rules in regard to business practices.

The licensing Federal agency should have power to require each licensee to answer any question concerning his business and to furnish at stated periods information in reference to the volume and character of his business, stock of goods on hand, prices paid, prices received, overhead expenses, and net profits. And each licensee should be required to keep his books and records in accord with uniform principles determined by the Federal agency with approved modifications necessary to fit the individual business. The Federal agency should at all reasonable times have the power to enter the place of business of any licensee and inspect any or all of his books, documents, correspondence, and records, and to take true copies of such as it sees fit.

Under the license no licensee should be permitted to (a) engage in any unfair, unjustly discriminatory, or deceptive practice or device in commerce; or (b) charge an unreasonable price or rate in commerce; or (c) exact an unreasonable profit for any calendar year in carrying on his business in commerce; or (d) refrain from buying food products for the purpose of unreasonably depressing the price

of those products in commerce; or (e) withhold from the market any food products for the purpose of unreasonably enhancing the price of those products in commerce; or (f) sell or otherwise transfer to or for any other licensee or buy or otherwise receive from or for any other licensee any food products for the purpose of apportioning the supply or unreasonably affecting the price or creating a monopoly of those products in commerce; or (g) be both buyer and seller, directly or indirectly, in the same transaction; or (h) conspire, combine, agree, arrange, or have an understanding with any other person to apportion territory for carrying on business or to apportion purchases or sales of any food commodity or to control prices in commerce. Where any licensee is by the Federal agency found guilty of committing one or more of the above enumerated offenses it should be empowered to punish or have punished the licensee to the extent of taking his license away, subject to right of appeal to the courts.

For the purpose of regulating the weights and measures and standardizing the containers of food products in wholesale trade, the licensing agency of the Government should have authority to specify the size, character, and kind of containers to be used in the shipment of the different kinds of food products in interstate commerce. Also this Federal agency should have authority to determine, in so far as is practicable, standardized grades for each food product and maintain inspection service at important shipping markets. When grades are established for a commodity the particular grade should be marked on such package of that commodity before it is accepted in interstate commerce with proper penalties for those who misbrand a package.

In order to prevent the same goods from passing through the hands of several wholesale dealers, the Federal agency should have the power to prohibit one wholesale dealer from selling to another in the same trade, except under special rules and regulations laid down by the Federal agency. That is to say, the line of movement of goods should in general be toward the consumer, and the channels of trade should not be clogged by excessive intertrading between wholesale dealers.

The Federal agency having control of the central market facilities and of the enforcement of the licensing of the food dealers should be authorized and required to make investigations of and frequent reports on the demand for, the supply, consumption, costs, and prices of and the facts relating to the ownership, production, transportation, manufacture, storage, handling, or distribution of all kinds of food products. This Federal agency should also be required to make daily market reports, giving the amount of different kinds of foods sold to wholesale dealers, with the prices they paid, and the quantities and kinds of foods sold by them to retailers and others, with the prices they received, thus giving producers, dealers, retailers, and consumers the benefit of public information.



EXHIBIT I.

SURVEY OF NEW YORK PRODUCE MARKETING CONDITIONS.

SUMMARY AND CONCLUSIONS.

Section 1. Present Marketing Conditions.

The interest of the community served by the New York perishable produce market is the paramount consideration. Any proposition for the solution of the problem involved must be based on the principle that the public market function is not altered even though private capital and private enterprise be employed in the performance of the function. Their service is in essence a public service and their activity should be directed along comprehensive lines laid out and controlled by the community in the same way for the public market as for any other public utility. When the city's food supply came from the immediate countryside and was distributed through municipal markets people of New York had a closer control than they now have. With the coming of the larger distributive and transportation agencies, public control has not been re-organized and extended to embrace them in any adequate way. The situation is out of hand.

The physical facilities for receipt and distribution of perishable food are grossly awkward and inadequate. A report to the New York legislature in 1912 indicated that the inefficiency of the system of local food distribution at that time cost the community between fifty and one hundred million dollars a year. The bulk of such loss falls upon the perishable produce. The capitalized equivalent of this loss at the higher figure is over a billion and a half dollars. With no allowances for the increase in prices and in volume since that time this represents the limit of capital expenditure which would be justified to correct the situation.

The losses by erratic price swings and the possibilities of manipulation offered in the perishable food market are very large. The instability of prices serves no ultimate purpose of producer, consumer, or legitimate merchandising.

The New York perishable produce market serves a general unit area not limited by municipal or state lines. It may be roughly defined as embraced within the sweep of a 30-mile radius of the New York City Hall, including approximately a population of 9,000,000 people. This population is growing with great rapidity.

Within this district the market service should be fairly equal, and the price should be generally uniform where population justifies.

The problem.—The problem is one of markets in conjunction with terminals; both should be handled together.

On the physical side, it is a problem of integration of the New York terminal markets with the outer transport system that brings the produce to the city.

On the commercial side, it is a problem of so arranging the commercial facilities that they shall sensitively equalize the economic stresses arising from the unavoidable irregularities in the flow of commodities to market.

Physical and commercial operations as far as possible should be separated so that the commercial operation may be most complete and flexible.

Section 2. Immediate Corrective Measures.

The largest possibilities of immediate remedy at least cost lie in the area of commercial unification. The whole market operation should be quickly brought into unity by a few administrative measures such as the promulgation of carefully devised regulations defining the methods, terms and conditions of the trade, offering facilities for inspection, grading, certification and registry of trades, and appointing public market places of open trading with facilities for public prices, and the linking of the several markets into a single market by official interchange by wire, of market information, of receipts, sales, and prices, currently during the hours of each market day.

The several market places should be so distributed as to meet the convenience of the population served. The standardization and supervision of the trading operations at these places is of immediate moment. Elaborate and much-needed physical market facilities involving large expenditures should be developed as rapidly as they may be.

The unification of the markets on the commercial side should be supplemented by facilities for unifying the physical distribution to the several local markets throughout the metropolitan district through some general clearing agency. The actual transport to these several markets should also be cleared through a single agency. Temporarily auto trucks on city streets under such unified direction could move the goods until a fully developed metropolitan freight transportation system is built.

Section 3. Permanent Revision.

Marketing operations.—In the case of perishable foods, commercial operations should not begin until the goods have been distributed to zone markets. At that point the commercial distribution should be directly to the individual retailer on an open market, with facilities for sale by auction, by bid and offer, by private sale and published price and by negotiated group price, to the end that everything that would simplify and expedite and make more effective the sale process should be made available. Such commercial distribution to the zone markets as there might happen to be would be limited to the redistribution of "overs" and "shorts" among zone markets to correct original distribution made by the dispatcher at the point of general receipts.

At each of the several zone terminals there should be a zone market, and all of the zone markets should be integrated into a single market by wire facilities so as to serve as a price making mechanism as well as the facility for commercial distribution of the "overs" and "shorts" of the operating distribution.

The terms of public trade units and delivery should be so defined and public information so compiled and published as to tend to stabilize price for the day from which erratic and trivial factors would be eliminated.

There should be control through license of all dealers in the market so that established sale processes can be maintained and from time to time modification or suspension of particular rules can be made in the interest of the whole market efficiency to meet changed or temporary conditions. The local market master should have a revolving fund to be used in emergency to stimulate competitive processes where mere direction would not avail. To the same end he should be empowered to handle consignments on nominal commission.

The administration of markets should be put upon a high plane, endowed with large powers and commissioned to define the trading function, to provide

Its public facilities, to revise its terms from time to time and to hold its operations in close coordination with the requirements of the city itself and within the limits set by the act establishing the public market. This supervision should include a department for promotion of the production that serves the market; for promotion of constant improvement in facilities of transport and transfer of perishables; for education of the consumer so that there may be a better organized and better standardized demand for perishable products, in something the same way as there is now a standardized market for milk; and also for education of the consumer, to the end that he may more promptly and intelligently adapt himself to the unavoidable irregularities of producing conditions.

The New York-New Jersey State agencies of regulation would intensively promote the improvement of producing conditions throughout the States of New York and of New Jersey. Aside from general supervision, the national agency of control would provide the interstate standards of containers and the standards and facilities for inspection for interstate grades and settlements and for information. It would specifically promote better physical conditions of transport, perhaps establish interstate clearing houses of interstate movement, and would be present to harmonize the local with the interstate and international uses of the port. When, as in the recent war, the Government itself is a large operator through the port, it would serve to harmonize these operations with the local operation.

In the same way as the freight operations would be under a unified control, the physical distribution of the commodities themselves should be performed by a general dispatching system, apportioning such incoming market supplies as are not consigned to individual dealers to the several terminals on the basis of usual absorption. It is the essence of economy that physical movement of perishable produce should be as direct as possible.

If the dispatcher system can be successful within the metropolitan district as the universal method of physical distribution, there should be a feasible plan of voluntary clearing houses under such public direction extending this control toward the producing districts to eliminate abuses and direct the flow to market on the basis of shifting conditions as the commodities advance. Already there is a system of public registry by telegraph through the Bureau of Markets of carload movements of perishable produce. This recorded earlier absorption becomes the basis of individual distribution.

Delivery from railroad or steamship to ultimate destination of local market or store door should be by a public carrier operating through the metropolitan district so that all such movement, whether on separate right of way or over the city streets, should be under unified control.

The marketing plant.—To serve as a local market as well as a local freight distribution and detention point, each of the local terminals should have the physical market facilities of a completely equipped jobbing market, with conveniences in each for displaying, testing, and dealing in the foods offered. It should also have local storage facilities, both cold and dry, accessible to all dealers on equal terms. Out in the New Jersey Meadows in a general receiving depot (and perhaps also at a similar receiving depot to the east of the city on Long Island) should be modern facilities for conditioning every kind of produce for grading, sorting, sampling, and general storage.

There should be a local transport and terminal system adjusted to metropolitan conditions, absolutely distinct and apart in type and operation from the transportation systems that bring the freight to the receiving point in the Jersey Meadows. This metropolitan transport system must carry the freight clear

to the door of the retail store. All parts of densely populated districts should be within easy distance of a local terminal. Each of these local terminals should have the same universality and frequency of service as every other, the adjustment to local conditions being effected in the extent of the zone served by each terminal.

The metropolitan transport and terminal system connecting up its own markets should articulate with the outer transportation system at a receiving depot in the New Jersey Meadows. This outer transportation system, in turn, should be first brought to complete unity by a perfect belt system making absolutely unrestricted movements among all its parts and directing the flow of its incoming traffic to the receiving platforms of the great transfer depot in the Meadows.

In the receiving depot and in each of the local terminals, every known modern facility for the handling of freight and produce should be had, as far as they could be made serviceable. The use of the car body as a movable container would go far to reduce the amount of handling of individual packages.

In making the store-door delivery, the freight would be advanced by trunk routes to the several zone terminals from which the direct distribution to the individual store would be made locally.

The trunk movement from the receiving depot to the several terminals should be certain, unobstructed, and expeditious. These conditions indicate that when the volume justifies, the movement should be by rail, under electric propulsion, on a right of way which in the city proper could be separated from street traffic and preferably underground. On routes of traffic too thin to justify an exclusive right of way, the auto truck could be used freely on the city street.

The unit of movement is a vital element in designing any system of distribution, for it regulates the extent of the trunk haul, the frequency of movement, and the number of small terminals to be served. This unit would be the car or truck body which would serve as the transporting container from the receiving depot to the zone terminal and to the store door. It should be designed to serve interchangeably as car body on electric trucks over the rail right of way and then as truck body for that part of the haul in the city streets. To meet the limitations of the truck that could travel on the city streets, its capacity should not be more than 10 tons. At the local terminal the car body should be lifted to the surface and dropped upon auto trucks for dispatch to the stores to which it is destined in the neighborhood.

Accessory facilities should be provided on equal terms to all—

- (a) For storage, dry and cold.
- (b) For public grading and certified sampling.
- (c) For conditioning.
- (d) For preserving.
- (e) For arbitration.
- (f) For settlements.
- (g) For market price and information service.
- (h) For credit information.

The tariffs for these services should be reasonable and uniform to all using them and subject to the regulation of the market master under the general provisions of the law establishing the market.

All goods entering the perishable market should be registered and settlements effected through the office of the market master, regardless of how or by whom the sales were actually made, thus cutting out all suspicion of sharp practice and permitting the addition of nominal general charges to cover the general service furnished by the market master.

PHYSICAL MARKET—COMMODITIES AND FACILITIES.**Section 4. New York Metropolitan District an Entity.**

In discussing the New York perishable food markets, it is best to think of the metropolitan district as a whole regardless of State lines. A generally defined metropolitan area must be treated as an organic entity in which each part articulates with and functions for all the other parts in its particular way. The metropolitan market should disregard artificial city and State lines that cut across this organic entity just as the Customs District of the Port of New York disregards similar boundaries in its administration. The goal is the efficient working, housing, and feeding of about 9,000,000 present population that is still rapidly increasing. For the purposes of this study New York will be taken to mean the metropolitan zone adopted by the United States census having a radius of 30 miles from the New York City Hall.

Section 5. Territory Tributary to New York Market.

The territory made tributary to the demand of the perishable produce market of the New York zone reaches from ocean to ocean. It even extends overseas to Belgium and Germany for Brussels sprouts, chard, endive, cabbages; to Mediterranean ports for specialties; to Hawaii for pineapples; to Great Britain for potatoes; and it extends south to Central America and the West Indies for bananas, citrus fruits, and a few tropical specialties. A considerable supply of eggs comes from China. Within the continental bounds of North America, New York reaches out to the State of Sonora in northwest Mexico for tomatoes; to southeast Texas and southern Florida for its early lettuce; to Florida and Louisiana for strawberries, new potatoes, and onions; to Georgia and Michigan for peaches, and Colorado and California for melons; to Oregon and Washington for apples; it reaches to the northern confines of Maine for its Aroostook potatoes, to Minnesota for the Red River potatoes, and to the Provinces of Canada for apples, cabbages and onions, butter and eggs.

Section 6. Volume of Perishables Marketed, and Distribution through the Year.

The estimated annual receipts of perishable food on the New York market approximate \$696,000,000 based on wholesale prices.

They are roughly distributed as follows:

Butter, cheese, eggs, and poultry-----	¹ \$233, 000, 000
Meat-----	² 270, 000, 000
Fruits and vegetables-----	³ 94, 000, 000
Milk-----	⁴ 84, 000, 000
Fish, oysters, and other sea food-----	⁵ 15, 000, 000
	696, 000, 000

¹ New York Produce Review, Feb. 12, 1919.

² Estimate Bureau of Animal Industry, Department of Agriculture.

³ Estimate of Bureau of Markets:

Sixteen fruits and vegetables, rail-hauled-----	\$64, 000, 000
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Estimate of Federal Trade Commission:

The same fruits and vegetables, other than rail-hauled:

Water-borne-----	12, 000, 000
Local-----	3, 000, 000

Total-----	15, 000, 000
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Fruits and vegetables not included in the above sixteen-----	15, 000, 000
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⁴ Milk Reporter, June, 1919, p. 16; 26,954,737 cans.

Price-----	\$2. 88
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Freight-----	. 36
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⁵ Estimate of Bureau of Fisheries:

Fish-----	\$13, 000, 000
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Estimate of Federal Trade Commission:

Oysters and other sea food-----	\$2, 000, 000
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Fruits and vegetables entering the New York market in 1918 were roughly distributed by commodities in percentages of car-lots as follows:¹

	Per cent.
Apples	14.9
Asparagus6
Cabbage	3.9
Cauliflower	4.0
Celery	1.8
Cherries3
Grapes	4.4
Lettuce	3.8
Onions	5.9
Peaches	4.9
Pears	2.3
Strawberries	1.6
Sweet Potatoes	3.2
Tomatoes	4.3
Watermelons	2.6
White Potatoes	25.5
Other fruits and vegetables, including citrus fruits and bananas	16.0
	100.0

The table² below indicates approximately what percentage of the total 16 fruits and vegetables alluded to above as received in New York by rail in 1918 reached the market each month:

	Per cent.
January	4.6
February	5.2
March	6.5
April	7.3
May	8.4
June	9.4
July	11.8
August	10.3
September	11.9
October	9.9
November	8.2
December	6.5
Year 1918	100.0

Section 7. Seasonal Zones of Supply.

With the advance of the season, the production for the New York market marches northward by definite zones. Each early zone makes its price until the next nearer zone "comes on," when the last previous zone drops out suddenly because of its disadvantage of the longer haul, affecting the condition of the produce on arrival.

The length of haul controls the conditions of the haul and indirectly affects the conditions of the marketing.

Home-grown zone.—Immediately adjacent to the city is the so-called home-grown produce within radius of wagon haul, up to 30 miles, and now, with

¹ These data are based on the monthly reports of the Perishable Produce Section of the Bureau of Markets, Department of Agriculture, except the last item which is based on estimate of the Federal Trade Commission.

² Based on the monthly reports of the Perishable Produce Section of the Bureau of Markets, Department of Agriculture.

the advent of the auto truck, up to 50 miles. In fact, experimentally this last season an autotruck service was inaugurated from Wilkes-Barre, Pa., to New York, and also from Vineland, N. J., to New York, considerably extending the farm-product haul by truck or wagon. It has been estimated however, that such supply is not over 5 per cent of the present consumption. In the height of the season the three market places in New York for home-grown produce together have about 1,200 farm wagons, but it takes 10 wagon loads to make 1 carload, and the wagon season is shorter because their produce must come from within the 50-mile radius, while the railroad has a radius of 3,000 miles to embrace many successions of crop maturities.

More than six hundred motor express lines are already in successful operation. There are one hundred and fifty in California alone. The entire State of Iowa has been divided into districts, and each district mapped out in motor truck routes and dozens of lines are running.¹

Local farmers' methods of marketing.—The products from the home-grown zone are marketed by the farmer himself. He collects his produce, hauls it to town in the farm wagon or autotruck, and markets it from his wagon at one of the three designated open-wagon stands. This business is the least standardized. The merchant being also the producer, the selling is generally subordinated to the producing. There are no general standards to conform to, and few farmers are large enough to put out their products under individual brands, so there is little standardization by sorting and packing.

Small shippers.—At the fringes of this zone an individual farmer may pick up the produce of neighbors or of entire districts, and so become a dealer. From Washington there has been a policy to encourage the development of such routes, using the autotruck. As these truck routes develop, the transport side is emphasized and they may become merely common carriers for the farmer who consigns to a commission merchant in the city. At this point, the express company takes up the business of less than carload, by rail and by the local and coastwise steamship lines. A great body of producers that ship in this way are casual shippers. Much of their produce, like that of the farm-wagon zone, comes to market in miscellaneous condition, poorly sorted and packed. In this zone there are some large individual shippers that use business methods and ship in carload lots, but the small shippers predominate as far south as Norfolk and to the Alleghenies in Pennsylvania and to western New York. All these small shippers throw the onus of marketing on the commission merchant. Whether the shipment comes by carload lots or in less-than-carload lots by express somewhat determines the class of commission men who handle it.

Carload lots; Shippers' methods.—Outside this last area is the zone reaching to the coast and to Canada and Mexico, where the movement is by carload lots exclusively. This movement is most highly organized, both on the transportation side and in the market process in New York City. The commodities are very carefully graded by the shipper and packed under brands; they are dispatched to different markets, according to the indicated demand at time of forwarding. They are also given transit rerouting at diversion points, such as Mounds, Ill., or Chicago, Ill., Cincinnati, Ohio, Louisville, Ky., Potomac Yards, Va., according to shifting market conditions after the shipment has started from the point of origin. Sometimes the railroads permit an inspection en route so that the destination may be redetermined according to changing conditions as the commodity moves toward market.

¹ Reconstruction Commission, State of New York, Report of Commission on Food Production and Distribution, May 14, 1919.

Section 8. The Market Places.

City market policy.—Relatively to their actual needs and standards of life, the early New Yorkers and their markets were more "modern" than they have been since. New York City was well served when all its perishable food came from the neighboring farms. Much of it was brought by barge, and the early market places were at the water side. In Revolutionary days there were four such markets along the shore line, with one interior market on Broadway. The markets that followed were mostly at interior points, but they remained distinctly market-basket markets supplied from the farms of the countryside. By 1838 there were 13 such city markets.

The first policy of the city had been to concentrate the perishable-food distribution in city-owned markets under direct control of the city. Dating from about 1814 there was a gradual abandonment of this policy of licensed trade. But the restriction on meat still continued for a long time; meat could not be sold outside a city market until 1843, when the city began to license outside meat stands. Gradually the shifts of population and the invasion of commission merchants and jobbers worked a change in the whole scheme of food distribution. About the middle of the last century the wholesale principle came into vogue and the housewife's market began to decline. In less than 20 years more the changes had gone so far that Peter Cooper, as president of the Citizens' Association, recommended that the city give up the markets altogether. The recommendation was not acted upon at the time, but the decay of the old market system continued. Nevertheless, in face of this tendency, three large markets were meanwhile built, namely, the West Washington Market, in 1889, the Wallabout Market in Brooklyn, in 1881, and the large Harlem Market under private auspices, in 1891. As individual markets fell into disuse they were abandoned, while a few new public stands have been established as, for instance those under the Williamsburg Bridge and the Queensboro Bridge.

Private undertakings in markets.—In an irregular way there have been various local market places opened under private auspices and abandoned, such for instance as the market on Twenty-second street which displaced the Stern dry goods store, and the excellent Astor Market built by the Astor estate at Ninty-fifth Street and Broadway. Those two undertakings were not successful and have been abandoned. Altogether, it is said, nearly 100 public market stands, small and large, originally scattered through the city, have at various times been opened and given up by private interests. Shelters on undeveloped properties are still found serving restricted localities, which are a passing device of the property owner to produce rents until he is ready for development.

Present market places outgrown.—All of these markets, both private and public, have been built upon the idea of serving local needs as housewives' markets and have had no relation to the transportation system by which over 95 per cent of the produce supplies now come to market. Under early conditions these market places would have served all requirements, the main consideration being only a proper distribution of such markets at points convenient to the housewives throughout the city. Such markets are a continuation of the early system and are distinct from those markets that have grown up at regular rail and water terminals. There are some 10 principal markets of which 7 are city owned and operated and two are privately owned and operated, and a third one (the Wallabout) is on city-owned land, but is operated under special regulations set forth in the charter. The farm wagon markets which attach to the Wallabout, the West Washington, and Harlem Markets, are relics of the early marketing system when the countryside from a radius of 30 miles supplied the city entirely.

The public market places are:

1. The West Washington and Gansevoort Street Markets.
2. Washington Market.
3. Wallabout Market, Brooklyn.
4. Jefferson Market.
5. Queensboro Bridge.
6. Manhattan Bridge.
7. Delancey Street Bridge.
8. Harlem Bridge.

Privately owned and operated are as follows:

1. Harlem Market.
2. Fulton Fish Market.
3. Various.—There is a considerable number of small stands in temporary quarters erected in vacant lots—owned and operated privately.

As market plants none of these is really modern except the Washington Market plant which was rebuilt in 1914. The Wallabout Market covers 28½ acres but is lacking in modern facilities.

Relation of market places to terminals.—The corner grocery and produce store has now superseded the housewives' market of the earlier day in the habits of New Yorkers. So it has come about that the public market places originally designed for other purposes have gradually integrated with the scheme for distribution based on deliveries at the rail and water terminals of the public carriers with a distribution effected through an elaborate machinery of wholesalers, jobbers, and retailers. The West Washington Market has become a part of the general aggregation along West Street at the steamship and water terminals which together constitute the primary market system of the city. The Wallabout and Harlem Markets are distinctly jobbers' markets while the rest of the markets continue to serve the declining market-basket trade.

Such of these markets as have been joined into this new system of distribution for which they were not originally intended, and made to serve as secondary markets for jobbers, are badly located. The three boroughs of Richmond, Queens, and the Bronx, with an aggregate population of about 1,000,000, have no such markets at all; and Brooklyn, with a population of nearly 2,000,000, has but two, one of them—the great Wallabout Market—being at the very edge of the borough in order to be at the waterside. In Manhattan all goods handled through the West Washington Market require a haul from the pier to the market, except those that come over the N. Y. Central tracks, and the market itself is inadequate. The Harlem Market, in upper Manhattan, is remote from rail and water facilities, except as it is conveniently located for certain partially water-borne home-grown produce reaching Manhattan across the East River.

Section 9. The Primary Market: Carriers as Market Masters.

A system so inadequate could not by itself serve the city if it were not supplemented by the private market places into which the rail and water terminals have been converted. In fact, with the latter-day trade mechanism of commission man, wholesale merchant, and jobber, these terminal markets are not really supplementary, but have become the main or primary market system to which the public market places are auxiliary. So it has come about that control of the real primary market places for a present-day population of close upon 9,000,000 people, once the jealously guarded prerogative of the city, has passed into private hands. Nor is this the principal defect; the

gravest feature of the situation is that this control is not definitely assumed by any single private agency or group of agencies under well-defined conditions, but it is taken over unwillingly as a necessary and annoying incident of the other regular business of these transportation companies which are public carriers and not market masters. About these rail and water terminals have foregathered a motley group of produce commission merchant and jobber stores, irregularly supplementing the market place function of the carriers. Under such conditions it would be unreasonable to expect any comprehensive coordinated and adequate market facilities. In fact, the actual situation is a patchwork of anachronisms and adjustments, awkward and inefficient to the last degree.

Location of terminal markets: Inconvenient for retail buyers.—The great primary produce market of the city consists, then, of a series of railroad and steamship piers interspersed at irregular intervals along the Manhattan shore line on West Street, from Pier 7 to Pier 44, and further northward to include the West Washington Market District. It is interrupted by ferry stations, merchandise piers, and, planted upon the piers themselves, it extends into the city streets. In Manhattan alone, of all the five boroughs, is found this primary market, and in Manhattan it is concentrated at the southern end of the island. It is in a district whose center is roughly 2 miles from the center of population of the metropolitan district described by a 30-mile radius from the City Hall. There is no coordination among its parts; their arrangement is purely accidental. Nor is it coordinated with any system of warehousing, all storage involving a truck haul. At its northern end is the live-poultry market, and just beyond is the Gansevoort Farm Wagon Market, where some 300 Long Island produce wagons assemble in the night. The buyers gather at the primary market during the night hours from 12 until 7 in the morning, and the buying begins at the stroke of a gong. To reach this market, the retail dealer in the outlying sections of the Queens, the Bronx, and the Harlem neighborhood must be up all the night before in order to buy his produce and have it back at his retail store for the early morning trade. Because it is inconvenient for many of them to do this, the jobber breaks the receiver's car-lot down to the wagon lot and sells some of it directly to these retailers at the point where first discharged by the railroad or steamship, and the remainder is trucked over to the produce dealers' private stores in the Franklin Street neighborhood.

Inadequate for market purposes.—In general, the market place of the New York produce market is most irregular and awkwardly contrived. The usual notion of a market as a place where buyers and sellers regularly meet, a place that is well established in common knowledge and general habit, is poorly realized.

Interference with city's through traffic.—It is an irregular market place subject to the convenience of the carriers, and so set in the intricacies of the port facilities that it encroaches on the place of through traffic on which the city's economic security rests. Under a tenure so unstable, larger considerations of traffic often dislocate and disarrange its different sections without warning and with large wastes and losses. Local congestions or weather conditions can suddenly disorganize it.

Piers not designed for markets.—The piers which serve for this primary market were first designed as transit sheds where incoming freights could be checked across the platform when breaking bulk from car to truck. But for market purposes, the produce must also be attractively exhibited. Yet here the buyers do not have easy, unobstructed, well-lighted access to all parts of a market nor do they have conveniences for negotiating, auctioning and settling.

Market facilities for sorting and grading and conditioning are entirely lacking. As produce markets the piers have no protection from weather extremes, no facilities for temporary cold storage. In all these essentials of a well-ordered market place, the railroad and steamship piers are conspicuously lacking except at the Erie fruit auction pier, and at Pier 28, which have heating facilities.

Number of terminals—Deliveries.—There are said to be 127 rail and water terminals to which the freight of New York comes. Foodstuffs are delivered to a varying degree to over 100 of these points, counting each pier as a single point, and of this number 30 are for fruit and vegetables, dairy produce and fish. These perishable food deliveries are scattered among the rail terminals in Jersey City, on the west side of Manhattan in Harlem and Long Island. The bulk of the traffic concentrates at Manhattan piers placed irregularly in the highly congested district south of Little West Twelfth Street on the west side, but there are two piers below Brooklyn Bridge on the east side where fish and oysters are marketed and five piers below Wall Street where produce or fruit is marketed. These piers are 2 miles away from the center of population of the metropolitan district served. Supplementing these market places at the delivery piers are the railroad team track yards of the New York, New Haven & Hartford Railroad at its terminals in the Bronx, and those of the New York Central in Manhattan at Sixtieth Street, at its Manhattan Yard in Thirtieth Street, at Fourteenth Street and along West Street itself on its route to its St. John's Park Station. The railroads whose terminals are on the west bank of the Hudson have also established small team track yards on Manhattan at points from Twenty-fifth Street south to Fourteenth, while some of their traffic is now unloaded in Jersey City and truck hauled from there to the commission merchants' and jobbers' stores in Manhattan. Except at Piers 17 and 18, East River, and the float delivery to Wallabout Market, none of the pier deliveries is at a market place save as the private property of the railroad is used for market purposes. In case of the Jersey City deliveries, the haul from the terminals to the market necessarily includes a ferriage over the river. None of these piers has any refrigerating plant, and only two—the Erie fruit Pier 21 and the Pennsylvania produce Pier 28—have provision against freezing weather. In New York Central Pier 31 the heating installation has never been operated. Where deliveries are made in railroad yards, the team tracks are, of course, entirely open to the weather, though in case of potatoes the individual shipper keeps a stove going in each car. Few of the piers are adequate to the volume of business they must handle; the traffic overflows, and so along West Street the railroads are forced to set the bulk of their produce out in the middle of the open street where crude shelters called bonnets, with removable canvas sides, are made to house the overflow and serve as stations and markets combined.

Section 10. Commission Merchants and Jobbers.

The produce merchant stores which have attached themselves to the carriers' terminals cluster in and around an area roughly described by West, Jay, Hudson, Fulton, and Greenwich Streets, all on the lower west side and embracing Franklin Street.

The physical facilities of the individual commission merchants, the wholesalers, and jobbers are quite as crude as the carriers' piers. They, too, occupy buildings that have been converted from their first purposes. These buildings are old homes of early New Yorkers, of all sizes and inconveniences; the fronts have been knocked out and lean-to bonnets built out over the sidewalk to the curb to shelter the produce from the rain. To these stores the mer-

chants "ride" what they do not sell at the pier. Few of these stores can handle through the house daily more than two cars of perishables at the most. As a considerable dealer will often have receipts of 5 to 15 cars in a day, it is plain that the dealer leans heavily on the carriers' facilities to make up for his own lack. It is variously estimated that 40 to 50 per cent of the produce arriving in Manhattan is sold either on railroad and steamship piers built and operated as such, or in the congested open street, leaving half or more to be trucked through the city streets to the commission merchants' stores.

Section 11. Localized Commodities.

As it is the function of a primary market to gather up as in a great hopper the entire supply coming to a given market that it may set off against it in its entirety the demand of that market, there would naturally be fixed locations in this heterogeneous market more or less identified with the marketing of specific classes of perishables. And this is true. To get a clearer view of the markets from this angle, there is given below a résumé of the principal markets according to commodities sold.

Fish and oyster market.—Oysters come to Pier 31, East River, and are handled through less than a dozen large dealers, both for local consumption and for shipment. The fresh-fish market is at Piers 17 and 18, East River. It consists of two adjacent buildings respectively on the bulkheads at these piers. These markets are owned and operated by two fish dealers' associations, each dealer having his space on the floor and office upstairs in the rear. The famous old Fulton Fish Market, which was operated by the city from 1821 until it was disposed of in 1914, still houses some fish dealers' stalls. It is just across South Street from the present main fish market. None of these market places has cold-storage facilities. All surplus fish which the market does not take must be moved by truck to the cold-storage plant, to be frozen, under the Brooklyn Bridge three blocks away, or to the National Cold Storage Co. in Brooklyn, or the Terminal Freezing & Warehouse Plant at Eleventh Avenue and Twenty-eighth Street. Not every cold-storage plant will handle fish because other products can not use the same rooms. Frequently the New York fish dealers have to go for their freezing to Buffalo, N. Y., or Newport, R. I., or Manasquan, N. J.

The market plant is confined and not modern. It has no rail connections nor does it have any regular line steamship connections, but fishing sloops and schooners dock in the slips back of the market. Most of its fish comes by express-company delivery. When it comes in car-lot by fast freight, the dealer sends his own truck for it. The incoming fish from the New York, New Haven & Hartford Railroad is brought down from Harlem daily in 50 or more auto truck loads, forcing their way through the congested streets for the full length of the island. The Fulton Market is exclusively a wholesale and jobbers' market, and also there are large shipments out of town. It is within one mile of the southernmost tip of Manhattan and nearly 3 miles from the center of population of the metropolitan district. Besides this market at Fulton Street, there is the smaller receiving point at the New York, New Haven & Hartford Railroad terminal in Harlem. A regular Boston fish train arrives here in the small hours of the morning. Some small local distribution is made here, but the bulk of it goes to the primary market at Fulton Street, whence much is carried back to Harlem and beyond, sometimes as far east as Stamford.

Live-poultry markets.—The principal live-poultry supply comes by the Delaware, Lackawanna & Western Railroad, and the other Jersey roads supply most of the remainder. The large Jewish population of New York demand

live poultry that is afterward kosher killed in the 175 poultry slaughterhouses and small butcher shops on the East Side. This results in half of the poultry coming to market as live poultry. This is a special market in itself. The orthodox Jew takes the fowl from the shop immediately it is killed, while still warm, with its feathers and entrails untouched, and dresses it at home. The chicken is chosen according to the varying size of the family to be served, and this accounts for the popularity of the consignments of the miscellaneous lots shipped from the small farms in the uplands along the Appalachians.

The carload lots of chickens are unloaded on the Jersey side and now, by a special poultry cooperative trucking service, are trucked and ferried to the West Washington Market, where the business centers. Here the distribution for the entire city is made. The less-than-car-lot poultry merchants receive their poultry by express company delivery at the same place. Grave abuses have existed in this business in the past, the poultry being fed with gravel and sand on arrival so as to increase their weight six ounces for the bird; hence the need for the systematic inspection which now follows the chickens from arrival to delivery in the West Washington Market. The market place seems adequately to meet its purpose, except that the single point is made to serve the whole metropolitan district. However, the great body of the consumers are on the East side, directly across the island and in Williamsburg and Harlem.

Butter, cheese, and egg market.—These products generally go in one class. The New York Central has a large delivery at the St. John's Park Station, its rail terminal in the heart of the city at Canal Street. The Pennsylvania and Erie each specially concentrates this traffic at special piers. Butter and cheese being manufactured products and carried in cold storage for periods of six to eight months, it is possible to deal in them by sample or description or grade, and this simplifies the market operation. Nevertheless, a large part of them is moved to the commission merchant's store. But there are two exchanges—the Mercantile Exchange and the Butter & Egg Exchange, where they deal in them by grade and brand at normal times in large volume. The cold-storage warehouses for these products center about Franklin Street, where the commodious quarters of the Mercantile Exchange are located, and the New York Central Lines' St. John's Park terminal.

Fruit markets.—The trade in citrus fruit and western box-packed apples centers at the Erie Pier No. 20. Excellent special facilities are here provided by the railroad, with an auction room upstairs. Ninety-five per cent of the California citrus fruit and 50 per cent of the western box-packed apples are marketed here. Apples from near-by points are marketed largely from New York Central Pier No. 31.

Dressed-poultry market.—The dressed-poultry market is located in the private stores in the Franklin Street district. The poultry is either chilled and sent in dry in refrigerator cars or packed wet in ice in barrels or boxes. A large part of the poultry comes to the New York market dressed.

Potato market.—The potato market is found on Piers 28 and 7 North River and 22 East River. All the railroad team tracks at different times distribute potatoes, particularly the Manhattan yard of the New York Central. There are sometimes large receipts of potatoes from Europe, which are marketed at the piers where they happen to be discharged. The potato market is the most scattered and irregular in the city. This is because of their large bulk and the irregular sources of supply.

Vegetables, berries, and melons.—The vegetable and berry market is principally located at the Pennsylvania Railroad and Clyde Line and Old Dominion piers among the transportation terminals. The unsold balance at these piers,

with the Pennsylvania truck from Norfolk, which is discharged on the New Jersey side, is "ridden" over to the stores of the commission merchants for final disposition.

Watermelons are principally sold from the cars at Jersey City.

Section 12. Other Distributing Agencies.

To complete the perspective of the food distribution agencies, though not within the scope of this survey, may be appended the following list of retail stores and public eating places in Greater New York:

Groceries.....	10, 448
Butcher shops.....	5, 583
Bakeries.....	2, 262
Vegetable and fruit stores.....	2, 095
Dairies.....	840
Delicatessen stores.....	1, 883
<hr/>	
Total retail stores.....	23, 111
Restaurants and other public eating places.....	7, 000

In Greater New York only (figures for the entire metropolitan district are unavailable) are 3,500 to 5,000 pushcarts, operating at nearly a dozen stands in the open streets up the East Side among the foreign-born population.

Section 13. Storage.

There are said to be some 400 storage places of all kinds in the metropolitan district. The cold-storage plants in this district contain about 35,000,000 cubic feet of space. In Manhattan and the Bronx, except at the private switches of the packers and except at the "Bronx," the "Merchants" and the "St. John's Park" cold-storage plants, there is no cold storage which can be reached except by truck haul. The plants having rail connections are all on the New York Central, which handles less than 20 per cent of the perishable produce. The fish market has no cold storage on the premises. Except in the West Washington Market, none of the coldstorage warehouses is directly in a New York market. The general opinion seems to be that the cold-storage facilities are about adequate for normal times, but under periodic stresses and under war conditions, with the enormous movement of supplies overseas, they are greatly overstrained. Cold storage as far back as Syracuse, Rochester, and Buffalo was all pre-empted for war shipments passing through this port.

During the war cold-storage charges were closely regulated by the Food Administration. Prior to the war the rates fluctuated widely. There is no ordinary regulation of storage charges. Some of those who had looked into the matter for various city food committees felt that cold storage in New York should be a public facility. It offered too many possibilities for manipulation of the market to remain a private interest. The chairman of the mayor's food supply committee was particularly outspoken on this point.

Section 14. Handling: Principle Bad, Methods Awkward.

The general scheme of marketing perishables in New York City which advances the physical bulk with every advance in the marketing process imposes an undue amount of handling. Furthermore, the isolation of storage facilities from carriers' terminals, which, with few exceptions, is the general condition, requires extra handling for all storage. And the separation of market place from terminal, except so far as the carriers permit "peddling" at the piers, imposes further handling that in a comprehensive plan of terminal markets would be eliminated. So also the conditioning by resorting and repacking re-

quires a removal from the terminal to some conditioning warehouse. Within the terminal depot itself the physical and mechanical facilities for actually handling the commodities after they are discharged from the car are awkward and cramped. Dr. Mary E. Pennington, the expert in refrigeration of the United States Bureau of Markets, especially calls attention to the inefficiency of a system which at great care and expense sorts, packs, and hauls a delicate fruit or vegetable for 1,000 miles and more under refrigeration conditions and then at the point of delivery neglects the most obvious precautions in handling from the car to the pier and from the pier to the truck and from the truck to the store. Nowhere in New York is the break-bulk from refrigerated car carried out under refrigeration conditions. The discharge from car float to bulkhead involves a long haul, exposure to weather conditions the length of part or all of one car float, and for much of it the length of two car floats. Nor is the delivery so organized that the commodity may be handled directly across the bulkhead to a waiting truck, but it must be held on the pier or bulkhead for the coming of the truck.

On the piers spaces are cramped, runways are long, and irregular placing and second handling are frequent merely in distribution of the freight for delivery. Until the war forced the issue, no mechanical facilities within the pier were in use. But in 1918 the larger piers introduced the flexible system of electric motors and trailers to very great advantage. These have been driven by women.

There is a very close relation between handling expense and types of containers. With the heavier car loading enforced by the Railroad Administration there has been much complaint that the existing types of containers were too frail to hold up in the lower tiers of the carload under the heavier loads piled on them. This condition has been reflected in large increases in the loss and damage claims against the carriers.

On the transportation side there has been presented a general view of the port and harbor facilities and of the difficulties the carriers experience in their enforced role of market masters supplying terminal space and "bonnets" to the produce trade.

In bringing perishable food to the market there is a further range of difficulties which belong more specifically to the transportation service as such, which must be considered, as well as the movement of produce by truck within the metropolitan area.

Section 15. Terminals: Transportation Problems.

Lack of interchangeability among terminals.—A terminal of several railroads is not alone an array of stub ends, but should also include a system of interchangeability among these stub ends. This is supplied by the device of the "belt line." At Chicago there is the "inner belt," the "outer belt," and finally as an outmost partial belt, the I. I. & I. R. R., which cuts across the lines converging at Chicago over a wide sector, effecting the interchange among railroads many miles outside the gateway of Chicago itself. New York is singularly lacking in these facilities. Its Jersey railroads have only the belt at the water edge, the National Docks Railway, which goes part way; the local float and lighter system operating on the Hudson and East Rivers is supposed to serve as the inner belt, but as the railroads decline to float their cars interchangeably to their various piers, the float and lighterage service is only a belt for each road individually, belting together all its piers into a common access. For this reason the lighterage is not really an "inner belt," except among private piers and private terminal companies. Furthermore, the actual physical facilities for railroad interchange on the Jersey shore are used only in a most

restricted way, because there is no interline switching. Competing roads force the interchange to include a considerable haul in order to realize extra revenue out of the interchange service when performed.

Free terminal interchange vital to the city.—This lack of belt service making it inconvenient and expensive to concentrate perishables from all the roads as they may come in to specific market localities is a large factor in the present confusion of perishable deliveries. In the competitive conditions under which the developments have been made the service was constructed about each road in turn as the principle of classification instead of about the city as a whole, to which each single road was a subordinate factor. The free terminal interchange would have permitted each road to push its individual development to the maximum clear up to the city gates, and at that point would have reorganized all the incoming business of each road to the requirements of the whole city. This would have permitted fullest individuality joined with fullest cooperation, and therefore fullest service with maximum of delivery and minimum of waste.

Specialization of roads and commodities.—As a result of the present system, each road while carrying many different perishables tends to preeminence in one perishable or a class of perishables. Each road for its predominating commodity becomes the city's terminal market and the other commodities also carried by the road either have to be routed into the city over the last lap of the way by another road than the one on which the shipment originated, or after arrival in the city have to be assembled by truck to their proper market. Thus the Delaware, Lackawanna & Western Railroad has become the line for live poultry, the Erie for California citrus fruits and western boxed apples, the Pennsylvania for vegetables, berries, and peaches, the New York, New Haven & Hartford Railroad for cranberries and fish, and the New York Central Railroad for dairy products and New York State fruit. The Lehigh Valley has no distinctive delivery unless it be milk. The Central Railroad of New Jersey, which brings New Jersey fruits and vegetables, breaks bulk, as we have noted, on the Jersey side and the commission men haul from there to the West Side markets. In case of potatoes no single road has preeminence, and as a result potato deliveries are scattered all about the city, which, because of the irregularities, produces wide price ranges and large losses that are all at last paid by the ultimate consumer.

Section 16. Delivery Problems of Carriers.

Emergency conditions, 1917-18.—Since the cramped facilities are greatly strained, congestion occurs frequently, and at times great irregularity in deliveries follows which naturally plays havoc with the operation of the market that must "move" the tonnage instantly. In the winter of 1917-18 the railroads staggered under an overwhelming tonnage combined with extraordinarily severe weather. The line-of-road movement of perishables was consequently badly deranged while the terminal situation at New York was impossible. The Railroad Administration which had at its disposal all the railroad terminals sought relief by using them interchangeably as a single system. This was a very proper expedient, but this "scattering of deliveries" and their irregularity, demoralized badly the potato market and the early grown vegetable market of Florida. At one time the commission men were hunting their potatoes from Bushwick and Melrose and Westchester yards to Piers 22 East River, 7 and 28 North River—and back to remote yards in Jersey. There were violent irregularities in the market, and necessarily considerable losses by decay. The condition in the severest weather when the harbor float operations were demoralized, was almost out of hand. Railroads and commission merchant committees were

in frequent conference to devise emergency arrangements. The significance of such specific instances in a more general survey is that they occur more or less every year—because the floating operation is always exposed to derangement in severe weather, and also because facilities generally are operated to a physical limit all the time, so that any irregularity in the flow of freight quickly cripples the service. New York supplies of all character, nonperishable as well as perishable, are handled with the very slenderest margin of reserve.

Proposed minor reforms.—Because of the severe experience of the winter 1917–18, the commission merchants are now urging that the Railroad Administration systematize and concentrate their Manhattan deliveries by designating certain roads to handle perishables to New York, and in the city itself consolidating all float deliveries of perishables at Piers 25 to 31, inclusive. The railroads, on the other hand, have become restive under the burden of “peddling” privilege at piers and yards which grew up under competitive conditions. There is strong likelihood of their abolishing it absolutely, now that under Government operation it is no longer a necessary concession to control business. They reason that it is not a transportation function to supply the market house. Already, to meet their own emergency conditions, the Central Railroad of New Jersey is making all its perishable deliveries at its Jersey City terminal, and the Pennsylvania Railroad, which is the line for southern fruits and vegetables, is delivering its produce from points in Virginia and northward on the New Jersey side; it is only floating to Manhattan delivery its perishables that originate south of Virginia.

Float delivery: Expensiveness and inefficiency.—The system of float delivery is peculiar to New York. It was adopted by the Jersey roads many years ago to enable them to make Manhattan deliveries in competition with the New York Central & Hudson River Railroad, which has access by rail to the heart of the island at their St. John's Park Station. It is very expensive in high fixed cost of depreciation and maintenance of dock facilities and of marine equipment quite as much as in direct cost of operation. Of the approximate 4½ miles of shore line from the Battery northward along the west side of Manhattan to Forty-second Street, the most valuable shore line of the port, the railroads for local purposes absorb 36 per cent while trans-Atlantic and coast-wise steamers occupy only 64 per cent. In the more restricted zone of 2½ miles from Pier 1 to Pier 48 only, the proportion of the above line given up to railroads for their local delivery runs to nearly 50 per cent. Some 46 piers out of a total of 226 on the entire island both East and West Side are given over to railroads, and so far the first great natural advantage of the port is subverted. These 46 railroad piers are used by railroads for all their Manhattan traffic, but of this local traffic the perishable produce is a very considerable proportion.

From a marketing standpoint, the difficulty of the float delivery is the irregularity of delivery due to lack of capacity in the apple and potato season, for instance, and in times of extreme weather. Besides, its flexibility tempts railroads to shift the point of delivery at times, to the great disorganization of the market depending on the deliveries.

Section 17. Trucking.

Full consequences of defects of system lodge here.—Trucking constitutes the innermost system of interchange and distribution. On the trucks falls the final burden of making the adjustments of regular operating conditions and inadequate and uncoordinated facilities. Here the final cumulative consequences of all the other defects of the city's terminals, public and private, are brought to focus. The heavy “concealed losses” by stealage while being

trucked about the city are not so serious for perishable foodstuffs as for other freight, because pound for pound it is not of so high value and not generally so packed that abstraction can be easily concealed.

Horse trucks continue to predominate. Auto trucks are considered to be uneconomical where so large a proportion of the time is spent waiting at piers, and where the street congestion slows down movement.

Special facilities lacking.—There are no special trucks for handling perishables in cooled containers. Except as they come to market packed in ice, perishables are exposed to temperature extremes in passing through the city streets, as well as to the deterioration from rehandling and rough riding.

There are no terminal stores, dry or cold, at the piers where perhaps 85 per cent of the Manhattan perishable deliveries are made. All produce received there which goes to storage must be trucked. This definitely adds to the trucking expense of the city.

Long-distance trucking for perishables.—Fruit and vegetables are trucked from the Pennsylvania Railroad's Jersey City terminal or from its pier in Manhattan (all of some commodities and perhaps half of most of them) to the wholesalers or jobbers in the Franklin Street district or in the Wallabout Market, Brooklyn, or in the Harlem Market, and from there again they are trucked to the retailers throughout the entire district as far away as Newark on the west, Peekskill on the north, Stamford on the east, and Tottenville, Staten Island, on the south.

Fish arriving in carload lots is hauled to the New York Market by truck, and to the farthest markets by express, and is brought in smaller lots by express delivery. Butter, eggs, and cheese do not have to move with such dispatch, and, therefore, while they are trucked to storage and to delivery throughout the city, their wider movements may be by boat or rail, or truck, as may be cheapest. Milk is trucked from the railroad terminals by the highly organized milk companies to their own depots and distributed from these points.

Congestion on piers and streets.—The height of the truck congestion is at the West Side piers where the "perishables" come in at the railroad float terminals. For most of the day there is a long line waiting for access to the different piers to discharge or receive their load. Trucks are sometimes delayed four hours in getting to the "string piece," and often are shut out altogether. The direct trucking expense under such awkward conditions is enormous, while the indirect consequences, through delays and damage and stealage, are perhaps even greater. The whole commerce of the port is put in jeopardy when there is a jam of freight and when the weather conditions are severe. Under the extreme conditions of 1917-18 the system broke down completely. It has become so grave an emergency that the Railroad Administration designated Commissioner Harlan of the Interstate Commerce Commission to work out some immediate solution for the period of the war. After several months of diligent effort, it had so far not been possible to remedy the situation.

Trucking should articulate with rail deliveries.—The requirement of selling by bulk instead of by sample makes it necessary to break physical bulk with every change of commercial bulk. Of course, in case of dairy produce where standardized conditions are more nearly realized, this is not true. Also so far as the commission merchants are able to sell at the pier, they save one physical handling in the breaking of the commercial carload lot.

Store-door deliveries.—It has, therefore, been proposed to make a store-door delivery based on the railroad waybill and include the trucking charges with

the freight charge to be collected in the same way. - One of the devices of the railroads to organize traffic at the source is the "sailing day." Designated "sailing days" in the week are devoted to movements to specified destinations. Under this plan the trucks pick up each day only the freight for the destination assigned for that day.

In the proposed plans for reorganizing New York City trucking, perishables are definitely excluded from the scheme because they have to move expeditiously anyway, and also because they move at the early hours of the day when the streets are not crowded. Nevertheless, produce trucking is closely related to the whole trucking problem and will ultimately be affected by any new condition which these plans put in force. If the proposed solution is effective, it may easily follow that the railroads will want also to make store-door delivery of perishables and abolish altogether the peddling privilege at stations on the ground that it is not a proper part of the transportation service.

Burden on ultimate consumer.—To summarize, because the railroad belt service is deficient, the final adjustments fall upon the trucking service in the city streets to effect interchanges which should have been made in a rail classification yard in the unbroken carload lot. Instead of a big railroad hopper in the New Jersey Meadows to receive the perishables and classify to certain delivery zones, the whole disorganized traffic is dumped upon the trucking system partly on the New Jersey shore and partly along West Street, Manhattan. Through crowded streets for long distances, under no unified direction, the rest of the classification is performed by truck. Without trying to estimate the consequence in cost figures, it is easily obvious that this throws an enormous burden on the ultimate consumer.

COMMERCIAL AND SOCIAL ASPECTS OF THE MARKET.

A. HANDLING PRODUCE COMMERCIALLY.

Section 18. Essentials of the Commercial Market; Regularity in Time and Place.

Turning from the physical facilities and limitations of the New York produce market with the larger economic problems with which they are joined, the consideration of the markets on the commercial side may be taken up. The essential of the market is that it shall be in a regular place at a regular time; or, in lieu of this regularity, it shall be advertised in such a way that the publicity will be equivalent to such regularity. The New York markets which are in regular market halls under control of market masters are held to formal regularity in time, and, of course, are regular in their location. But the primary markets that are conducted outside of the city market properties, either at the pier of the transportation company or at the store of the commission merchant, are irregular because of the close relation into which they have been forced with the routine operations of the transportation company. This is true in spite of the fact that the railroads approximate a fixed schedule of deliveries of their floats, and the steamships likewise arrive on approximate schedule.

The publicity of the time of market arises from its regularity rather than from any specific announcement; but the regularity of exact place where the market is held for different kinds of commodities is not so well observed. It has been noted that, in general, the great volume of produce that comes to market by rail or water tends to a single primary market for each group of commodities; but sometimes the convenience of the transportation company temporarily shifts the place of delivery and with it shifts the market that at-

taches to the terminal. In the case of any one commodity coming from many different districts, as, for instance, potatoes, the inconvenience and less due to irregularity of place has been very severe.

Section 19. Irregularities Affect Prices.

The theory of a great single primary market to which all the commodities are brought, there to meet in one body the entire assembled demand, and register the relation of supply to demand in the single price, is not realized. When the irregularities of delivery due to congested conditions bring about uncertainty not only as to the place, but also as to the volume of arrival of some commodities, this uncertainty is disastrous to any orderly plan of price-making by the open market.

Section 20. Location of Merchants in the Market.

At the Pennsylvania Railroad Piers 28 and 29 it is the practice to assign permanent locations to individual merchants based on the volume of prior business. The most desired locations are those under the bonnets in the middle of West Street, where the body of the buyers first come by easy access. Mere differences in the location in and about the same pier make a difference in the salability of like commodities offered which affects their price. So definite is this advantage that the twelve principal dealers who there hold this advantage are called "the twelve apostles." The buyers must pass their lines to reach the goods of the less fortunate merchant, which are offered at locations back from the bulkhead on the pier.

Section 21. Food Distribution: Requirements of Retail Trade.

It is profitable at this point to have in mind the number and general characteristics of those engaged in the commercial handling of foodstuffs for the metropolitan area and also something of the requirements of the retail trade, for the satisfaction of which this great enterprise is undertaken.

Numbers employed.—It has been estimated¹ that some 400,000 people are employed in the business of food distribution in New York City. This is a very inclusive figure. It would indicate that 1 out of every 25 of the entire population directly or indirectly through this market, is in business of food distribution, wholesale or retail. If the zone is narrowed to include only a population of approximately 7,000,000, which are served very directly by such food distribution agencies, the figures would show 1 out of every 18 of the population devoting his time to the distribution of foodstuffs.

Relative importance of perishables.—No figures are available either actual or estimated to indicate the proportion of the whole number engaged in food distribution who are chargeable to the handling of perishable products alone, but an indication is had of the relative significance of perishable food distribution from the figures of the retail trade in the table given in sec. 12, which was compiled by the Food Administration in May, 1918. This table shows that about 8,500 establishments of a total of 23,131 are occupied exclusively in the distribution of perishables, including meats and dairy products. This is about 37 per cent of the whole number. In addition it is a matter of common knowledge that the grocery stores and delicatessen stores all handle dairy products and most of the groceries handle fruits and vegetables, more or less.

Needs of city purchasers.—The great congestion and the apartment and tenement life of New York City have, in the course of years, radically changed the marketing methods of the housekeeper. She has no facilities for keeping

¹ Merchants Association Report, March, 1918, p. 17.

household supplies in store except from day to day, and she has almost lost the virtue of the thrifty housewife, who plans and provides ahead. The great convenience of the telephone has broken down the habit of personal marketing, while the increasing tendency to offer groceries in packages under brand has facilitated the marketing by telephone.

Character of resulting retail business.—There has grown up the neighborhood grocery store to do for the housewife what she has gradually ceased to do for herself, namely, to buy and bring into the neighborhood, to select and assort, and invitingly exhibit, the receipts of the general market in such a way as to suggest and facilitate the daily home menu. The delicatessen store carries the process yet a stage further and serves partially prepared food, while the wagon and pushcart peddler wheels his assorted supply under the flat dweller's very window. Along with the goods which he delivers, the neighborhood grocery man or delicatessen man has come to perform a very large personal service in this way, and he furthermore holds himself ready to perform this personal service during any hour of the day or night that his store is open, and to deliver in any irregular quantity that the passing whim of the housekeeper who has not planned ahead may impose upon him.

Personal service an element of cost.—This sale of personal service along with the commodity is the striking phase of the New York retail produce distribution. It is a large item in the high cost of the produce sold. It is true the vagaries of the ultimate consumer are not directly handled by the wholesaler and jobber, but they are among the ultimate factors with which they must reckon and for which they must provide by assorting and packing and searching out the markets for their particular goods.

Other special services.—With personal choices and tastes there are also race and religious distinctions, which are considerable factors in the New York perishable produce trade. The Jewish requirement of kosher-killed poultry is the foundation of the large live-poultry market. The Friday fish market is, of course, an established institution. The estimated 7,000 restaurants and 2,000 delicatessen stores¹ in the metropolitan district have their particular requirements that must be met, and the dining-car and steamboat trade constitutes another distinct line of trade to be served.

Distribution: General plan.—However, it is at the other end of the transaction from producer to consumer where the particular interest of this inquiry lies; here the marketing conditions are still more complex.

The general plan of distribution, which is still in flux, comprises a primary market where the goods are received in their original lot and broken down to jobber lots; and secondary markets to which the jobber lot is carried and then broken down to the retailer's requirements.

Through this market must be distributed in the course of nine hours of each day some 40 or 50 commodities representing in their grades upwards of a hundred items of traffic. Few of them are constant for long periods, so that in the course of a season a great many more than a hundred items of traffic are handled. The volume of the trade in perishable products on the New York market is enormous, said to be—as before noted—upwards of seven hundred million dollars a year. The greater part of it falls within four months of the year. Through this market must be negotiated all the irregularities of growing conditions of highly perishable crops that must be rushed at express speed to reach the market under the normal conditions, and must not be delayed in distribution when they reach the market itself. Beginning with the South, the

¹ Table, p. 210.

movements from the tiers of producing districts along isothermal lines follow one another in quick succession. Each nearer zone as its crops come on drives out those of a longer haul from the more distant zone, whose products are no longer salable. All these violent changes in the supply areas, in addition to the erratic crop conditions of each producing area itself, come crashing upon this great New York market, where the differences must be adjusted in a day and the goods dispatched and delivered to the ultimate consumer. It is little wonder that a market left almost entirely to its own devices in physical facilities and organization should stagger under such burden and should register the wildest price changes.

Only a scant 5 per cent of the perishable foodstuffs entering New York are sold directly from farmer to retail merchants. This estimated percentage, based on trade in the busy season, is brought to the New York markets by the farm wagons to which reference has already been made. For the remaining 95 per cent coming from distances ranging from 30 to 3,000 miles, the public carrier has intervened between the producer and the consumer. With the carrier has also been injected the whole machinery of commission men, and wholesalers, jobbers, brokers, and auctioneers, and expert wholesale buyers and salesmen.

The market makes the commercial distribution, which in turn directs the physical distribution. It physically presents the commodities to possible buyers, and by every device seeks to stimulate desire for the goods offered, so arranging and describing them as to promote the market process of individual selection to meet the taste in grade and price of each possible buyer. The market offers, at the same time, facilities for settlement, and must have regular methods of delivery as an accessory feature. Manifestly the original dealer can not generally search out the small retailer who ultimately shall buy his goods. As a practical solution of the difficulty there arises a classification of the trade, breaking the distributive process into two parts of primary and secondary distribution. The controlling distinction is merely a matter of the size of the lot which is traded in. In the New York market, through the whole chain of commercial transactions, physical bulk travels with commercial bulk and breaks with the breaking of commercial bulk, except in the marketing of butter, eggs, and cheese, except in the case of fruit, where a partial variation is made at the fruit pier of the Erie Railroad, and except some sales of potatoes by grades. This is the general practice, although it is expensively awkward.

Section 23. Complex Market Machinery.

Commission men.—Instead of marketing direct the producer ships to the commission man who acts in his stead in receiving the goods from the carrier, finding the best market, delivering to the buyer, and collecting the money. When the farmer ceased to come to market and turned his produce over to the commission merchant, the distribution system ranged itself thenceforth about the commission merchant who was the primary receiver. When the commission merchant first took his place the production of perishable produce was only an incident of general farming instead of the main business as in the case of highly specialized farming and truck gardening; all of the phases of it including the commission merchant to whom he shipped were of only casual interest to the farmer. The service was intermittent, and seasonal. It was paid for upon a commission fee and there was no continuing contract. The devices by which the commission man in New York has tried to bind his shippers to him will be considered later.

The changes are instant and violent with which the perishable produce merchant must cope. If he acts for himself as principal he has none besides himself to account to for errors of judgment or want of alacrity, but if he acts for another as commission man or broker the same irregular conditions must still be met and it is practically impossible to exactly check him up in all he has done for his principal. No price reporter can accurately report the exact conditions under which a specific trade was made. A difference of an hour in the arrival and sale; or a slight difference in the condition of the goods or some local and trivial circumstance may make a wide difference in the price realized. Add to these conditions the occasions when the commission merchant must exercise his judgment whether he will regrade or repack or carry over a shipment, and there is a wide range of discretion which offers possibilities of misunderstanding between shipper and receiver.

The broker.—The broker has all the latitude of negotiating a price for either buyer or seller which the principal will accept, but he does not have the incidental responsibilities of a commission man. As an agent, either commission man or broker is independent of his principal in any other transaction than the one he is for the time being performing, therefore to retain business he generally identifies himself as far as he is able with certain producers whom he endeavors to serve continuously.

Produce salesmen.—Acting for commission merchants there has developed a class of well-paid expert produce salesmen who do the actual selling on the railroad and steamship piers. These salesmen have no restrictions on their selling price because the goods must be sold as received, except in case of some of the perishables which may go to storage, if unsold. The art of salesmanship in the perishable produce market is quite distinct from that required elsewhere because the conditions which the salesman must meet are constantly changing and he must follow the situation instantly with his price if necessary. He must sense the current market and the prospective individual buyer and act on his own judgment and "move" the goods.

Buying brokers and auctioneers.—On the other side are brokers who buy from the commission merchant for account of retail grocers in outlying districts. These brokers are expert buyers with very exact knowledge of the requirements of their principals; like the salesmen they also act with wide discretion. The auctioneering is confined to three companies. As auctioneers they are under the local license and regulation which are general for all auctioneers.

Section 23. Commissions and Brokerage.

Commissions run from 5 to 12 per cent; brokerage, from $2\frac{1}{2}$ to 5 per cent; the auction fee is $2\frac{1}{2}$ per cent. The theory of the distinction between the brokerage charge and the commission charge is that the commission man guarantees the collection of the money, whereas the broker simply negotiates the transaction and leaves the settlement to the principals. The commission man and broker both claim a large credit for personal service in promoting the transactions of their principals, which they maintain is not possible in the case of the auction. For this reason, the commission fee and usually the brokerage are higher than the auction charge. Less-than-carload consignments from all sections pay a commission of 8 to 10 per cent. In the case of carload lots there is a distinction between the commodities from certain zones, for instance—early vegetables from south of Virginia pay a commission of 7 to 12 per cent, and those from Virginia northward pay a commission of 5 to 7 per cent. There is also generally a concession to associations of 2 to 3 per cent. The trade is so loosely organized that it is difficult to enforce specific regulations for the protection of usual trade fees.

Section 24. Number and Personnel of Dealers.

It is estimated that at the present time there are less than 500 commission merchants in New York City, which practically is the metropolitan district. Most commission men are also dealers and jobbers. The dealers and jobbers of Greater New York may reach a total of 3,000 to 5,000.

The personnel of the trade has been largely recruited from the immigrant. Italians and Greeks dominate the fruit and vegetable trade. Jews are large factors in the poultry and in the butter and egg trade. The facts that for most of the business little capital is required, that the operations are very hazardous and that many immigrants go into the business before they have developed their responsible connections, make for a large floating quota among the smaller dealers and jobbers, and much unreliability. A considerable number speak little English, or speak it with difficulty. However, mutual terms of confidence have grown up in groups and between individuals, and these relations form the basis of trade usage which is practically all that protects this unregulated business from utter chaos.

Section 25. Trade Agreements.

This most loosely constructed market involves a body of conventions and agreements, tacit or actual, under which the competitive buying and selling may go on.

A market's agreements, either tacit or formulated, are devices to make the competitions more effective. They are agreements (or mere usage) as to time and place of market and the terms of the trade, that is, the identity of the commodities and physical measures in which the trading is done. The more precise and certain these terms, the more intense the competitive strife in the area where the competition is concentrated.

Section 26. Distributors' Organizations.

Some 30 distributors' organizations are listed by the Merchants' Association. These organizations irregularly cover the field of different commodities, but they are largely organizations on paper and their interest is confined to very immediate and narrow phases of the business. They principally serve as rosters from which to call for expressions of the trade and for committee action in emergency when a particular line of trade may be in special difficulties by public attack or pending legislation or by derangements from some disorganization of transportation conditions due to change of railroad policy.

Section 27. Shippers' Organizations and Sales Agencies.

On the shipping side the growers form organizations and come to move perishables in such quantity that they place their own salaried agent in the city who distributes either by auction or by jobbers. This tendency to organize the shipment either from the forwarding side or from the receiving side by country purchase, of course definitely encroaches upon the intermediate area of the commission merchant. The Coles law of New York State requiring a bond of \$3,000 from commission men has tended to reduce the number of real commission merchants.

Section 28. Parties to Market.

The primary market conforms to the full notion of a market in that it has competing buyers and competing sellers for a great body of the business transacted. This is modified somewhat in case of products put on the market by growers' associations where the brand is almost as important as the product itself; and for certain lines of demand at any one time there may be one or only a few sellers as against many buyers. When the sales are made by

auktion, there are one seller and several bidders (or possible buyers) at any one time, each of the several sellers taking his place in sequence. In order to avoid favoritism this sequence is by rotation of auctioneers and sellers. While there is no organization in the market, yet the business of buying is carried on by very nearly the same people each day, and out of such regularity of business follow the natural relations of personal confidence which becomes the basis of credit so that a great volume of the transactions is negotiated and the goods delivered upon credit, based upon a ten-day settlement.

Section 29. Transactions.

Complete and incomplete trades.—A complete trade is a trade in which the price either is negotiated for each single trade or is known at the time the trade is made and when the amount for which the trade is made is specifically arranged between the buyer and the seller. Naturally the bulk of the trades is what may be called complete both as to price and quantity for which the trade is made.

Incomplete trades are trades having either price agreed upon, quantity not determined, or quantity agreed upon, price undetermined.

There is a well-established practice of making private transactions upon the basis of prices agreed upon elsewhere, in the case of butter and eggs at the egg exchange; in the case of live poultry, at a price agreed upon once a day between the representatives of buyers and sellers. For a very large volume of business—perhaps even in 25 per cent of the butter-and-egg business, as estimated by some—the transaction is made privately between buyer and seller as to the quantity purchased, but the price is subject to the Urner-Barry¹ quotation of the day, which does not issue until after the transaction is made. This has been found a useful simplification of the process of price making for a great many who deal from day to day in the same market. As it is entirely voluntary, and as the Urner-Barry agency enjoys high confidence, it has given very general satisfaction.

The regular process of making these public prices for use in trading, while it is a vital part of the market operation, has so much the nature of a collective negotiation that only a few of those interested are at the instant directly active in the negotiation itself.

Private sale.—Most of the business is done by private trade, individual buyer with individual seller. Each buyer negotiates his own price; he “shops” from seller to seller. This is the basis on which the large body of transactions is effected, but the perishable nature of the commodities does not permit very extensive “shopping,” except when goods of like character concentrate in restricted parts of the same market. Regularly negotiated collective trades are not common, but the jobber buying for his fixed clientele or the retailer or chain store buying for its constituency is somewhat analogous to the notion of collective bargain.

Public sale.—The public sale is by auction and by bid and offer on exchange. The process of transaction by bid and offer on exchange is limited to the Butter and Egg Exchanges. Auctions are conducted with fixed regularity at the Erie auction fruit pier and are irregularly resorted to at the piers and commission merchants’ stores for fruit and vegetables.

Resales.—The very perishability of perishable products does not give great opportunity for successive resales within each department of the trade, as the goods advance toward the consumer. There is, however, the first resale, which may absorb most of the disparities of some accidental situation. The retailers

¹ Urner-Barry prices are the quotations of the “Producers Price Current” published by the Urner-Barry Co.

who go to the Gansevoort Market sometimes find that the speculators have been there first very early in the morning and bought up the market when they have had special information of a local shortage for the day or for two or three days. At times of glut of course the same speculators are not interested in steadying prices. Resales were specifically prohibited by the Food Administration and probably during the war were very nearly eliminated, except for reasonable accommodation among traders.

Speculation and futures.—Speculation and futures so far are not very practical in most of the perishables, because of this very perishability and because of the failure to reduce the variations to standardized grades. This, of course, is not true of butter and eggs which lend themselves to grading. Here at times has been large speculation. The sales on the Butter and Egg Exchange or the Mercantile Exchange are exposed to all the possibilities of manipulation of any regular produce exchange, with the added advantage to the manipulator that the volume of trading is relatively small compared with that of the great grain exchanges. In the general trade apples, nuts, raisins, and dried fruit also are speculated in to a considerable extent; but at the other end of the scale water-melons, green corn, dewberries offer very little possibility in this direction. Trading in future contracts on butter and eggs was prohibited by the Food Administration during the war.

Section 30. Apportionment and Control of Business by Individual Firms.

Theoretically the individual producer ships to the commission man, who sells the car-lot (or lot of several cars) to the wholesaler, who breaks the car-lot to the jobber. The jobber in turn parcels out his purchase to the retailer, or the broker buys it for the retailer. But in New York, as in other cities, these distinctions are not sharply maintained. More or less a firm holds itself out to perform one function, but almost invariably will perform two or more functions at the same time.

Since the great body of the commission business is upon the basis of the service fee, without any continuing contractual relations whatsoever, the agent holds his client by the efficiency of his direct service, in large facilities for publicity and in personal promotion of sales. These advantages to the principal are realized in each particular sale so far as they really are actual advantages, and constitute the most binding tie between client and agent. There is a very considerable range of extra services by which the commission men individually promote their relations with their trade, by the offering of personal advice; by a bulletin service, in the nature of systematic market reports; by personal visits; by stimulation and direction of certain kinds of special production; sometimes by furnishing containers or furnishing them at a reduced price; by offering special physical facilities for resorting and packing. All of these, however, are related to the market service itself. The dealers go further, and become financially interested with the producer, furnishing seeds first, then perhaps in financing fertilizer expense, and at last by degrees come to finance the larger part of the operations. By these stages they come to hold for themselves the business of such production. This practice has become quite a significant factor in New York in directing the flow of produce in the early season from Louisiana and Florida. What the commission merchant did in order to secure his commission business the wholesale dealer has come to do to safeguard his dealers' profits. Increasingly the city dealer now purchases in the country.

Section 31. Control of Crop.

Definite contractual control of the crop by option contract is generally undertaken by canners who make and sell by brand; but large operators in single

places of production of well-known quality which are confined to restricted localities frequently secure strategic control of the industry by option contracts.

The last stage of control of business is the purchase of goods outright at the point of production, when, of course, the market service takes on an entirely different character, the broker and commission man being eliminated and replaced by the principal, who is his own commission man and broker.

Section 32. Trade Practices: Ethical Aspects.

Speculations by commission men.—The unavoidably wide discretionary power of the broker or commission man acting for a principal involves always possibilities of collusive relation, and it is exceedingly difficult to detect this with no continuing agency in the field that is regularly policing the business. The mere opportunities give rise to suspicions which may have no justification. But it is in the strict interest of both principal and agent that the facilities for checking up the services of the agent to the principal be adequate and reliable.

If the transactions were regularly cleared through a disinterested agency, this might serve as a precaution. The commission men have taken certain associate action to correct abuses in the live poultry trade which were outrageous, and they also maintain an agency for supervising the trucking charges of the commission men so that abuses in this direction can be eliminated or held to a minimum. The public sale by auction or bid and offer gives less opportunity for collusion, but even in the auction business practices are possible and have sometimes been definitely proved which defeat the interest of the principal.

Price manipulation.—In a trade in which a principal acts for himself, and in which the transaction is completed in respect to both price and quantity, which are determined by the same negotiation, the chance for manipulation lies in the derangement of the flow of supply; but this is reduced to the minimum in a regular public market. However, in case of an incomplete trade where price is determined at one time and under one set of conditions in one area, and quantity is left to determination of other places and times in other and wider areas of operations, very large abuses can arise. The incompleteness of the trade may not be obvious to the other party to the trade, because there may be an actual, completed transaction, but at the same time there may be a preponderance of the whole body of trade affected by these conditions which is uncompleted, and yet it is classed with the completed trade at this particular point and made to enjoy its strategic advantage.

There is testimony to abuses of this character which have existed in the New York market from time to time where fruit growers who serve the country as a whole find it to their interest to make their price in New York, where they may control the situation, and base private sales elsewhere on New York prices.

Where the quantity of the sale is determined and the price is left to other determination than the parties and circumstances that attend the transaction itself, there are always possibilities of price manipulation; but the chances in such a trade are less than in the former case, where the price is negotiated against only a part of the quantity that actually passed, and in which the transaction is completed in respect to both price and quantity in the same negotiations.

The regular public auction at a large market is often urged as the fairest method of testing that market, but aside from the possibility of manipulating the flow of incoming supplies for auction there must always remain the chance for collusive practice by wash sales, unless the trade is very systematically and thoroughly policed to a degree not now practiced. The practical significance of these possibilities at the last comes to be a question of what is actual

usage, and this can only be a matter of general testimony in an inquiry of this kind.

The special auction, by its irregularity of time and place of appointment, offers further opportunity of manipulation. There may be overadvertisement—overstatement of the supply and of the circumstances under which it seeks the market, which will draw bidders there in far larger numbers than the situation at all justifies to bid against one another and force up the price, if a very restricted offering is made.

Section 33. Expense of Distribution.

The so-called Osborn committee of the New York Legislature which investigated in 1912 New York food distribution estimated the cost of food distribution at 46 per cent of the gross retail price. As this included all foods, the cost of the distribution of perishables doubtless was higher, although there was no separate estimate made for it. It was further estimated that 10 to 20 per cent of the gross price which was figured in this 46 per cent was excessive, and due directly to the inefficiency of the city distributing facilities and methods. Estimating the gross perishable food business at that time at one-half billion dollars a year, the amount of this loss to the city every year on the basis of the figures of 1912 was about \$50,000,000. The volume of business and aggregate cost of commodities are much greater, rather than less, at this time than in 1912, and there has been no revision of the situation to reduce the cost of distribution, so that it is safe to say, upon the basis of this estimate, that the wasteful methods of New York distribution at the present time are costing between 50 and 100 million dollars a year. The New York City Commissioner of Markets, in the fall of the year 1918 made some investigations to show the percentage of increase in the price paid by the consumer over the cost of the commodities delivered at the New York terminal, and his figures are below:¹

Product.	Per cent of increase.	Product.	Per cent of increase.
Creamery butter.....pound..	16.9	Fruit:	
Whole milk cheese.....do.....	28.13	Peaches.....quart.....	66.6
Western eggs.....dozen.....	19.47	Baldwin apples.....pound..	116.2
Fancy white leghorn eggs.....do.....	43.43	Florida oranges.....dozen.....	40.0
State nearby eggs.....do.....	30.42	California oranges.....do.....	54.65
Fresh milk.....quart.....	71.5	Bananas.....do.....	135.2
Vegetables:		Lemons.....do.....	122.2
Potatoes (Maine).....pound..	57.81	Poultry:	
Potatoes (imported).....do.....	92.0	Frozen roosters.....pound..	24.15
White onions.....do.....	85.0	Live fowls.....do.....	25.0
Fresh beans.....quart.....	106.2	Fish:	
Fresh peas.....do.....	91.8	Halibut.....do.....	85.5
Lettuce.....(head).....	87.5	Weakfish.....do.....	61.0
Cabbage.....do.....	104.0	Cod.....do.....	180.0
Green corn.....(ear).....	66.6	Bluefish.....do.....	25.0
Carrots.....(bunch).....	100.0	Haddock.....do.....	160.0
Beets.....do.....	100.0		
Celery.....(bunch).....	150.0		
Tomatoes.....(pt. box).....	60.0		

All the above figures are necessarily averages in which typical phases which might more specifically characterize the whole situation are merged and lost sight of. While the average stands at the figure given, many individual situations are grossly wrong, as there may be others that are more nearly right.

The criticism of the New York market is not alone the excessive average cost of distribution, but also the unevenness and irregularity with which this waste may be borne or escaped by the different factors in the trade at different times. The situation tends very much to bear out the characterization of a

¹ Proposed market program for the City of New York, pp. 17-18.

large produce dealer in another city, who describes the perishable produce business generally as "simply a case of a number of individuals and companies operating independently on a speculative basis, each one trying to outguess the others as to how much he can clean up on a particular deal, whether it be cabbage, onions, potatoes, cantaloupes, oranges, or lemons. The most intense kind of competition prevails in both the buying and selling end, so that prices are forced up at loading stations and profits often reduced to losses after goods arrive to be sold. In other words, the tremendously important business of distributing perishable foods adequate to supply the wants of large cities is practically nothing more than a gambler's game in which the player stands up to the table and plays the red, the white, or the blue. If they are lucky, they win, and if unlucky, they lose, and in between the consumer 'pays the fiddler.'" He cites specific instances of jumps in prices of cabbage of \$20 to \$30 per ton over night, potatoes 50 to 75 cents per hundred pounds and many other such wild fluctuations. These are illustrative of conditions he meets in a particular city, but are equalled or exceeded by very usual occurrence in New York City. He continues: "The reason for this is that the majority of the car-lot jobbers having all guessed the same thing at the same time brought in a superabundance of potatoes, cabbage, or onions. The market would not absorb this quantity, weather conditions became, perhaps, unfavorable, causing the goods to deteriorate, and everyone made strenuous efforts to unload, taking heavy losses. In about another week this situation had changed, the market had cleaned up, and because no one had the nerve to go back again and play the same lead, there was not sufficient cabbage, onions, or potatoes rolling [to the city] to supply the needs of the market, and immediately the jobbers ran the prices up, claiming the law of supply and demand forced them to do it. These variations and fluctuations are not chargeable to the law of supply and demand, but to the anarchy and chaos of individual competition.

"The requirements of [this] market can be carefully studied and a fair estimate of the average needs made from statistics gathered over a number of months or years. I maintain that there are millions of dollars worth of perishables allowed to waste and rot in all the large cities after money has been spent in growing, gathering and packing them, and freight paid on them, simply because they are bought with the sole idea in mind of making a profit and without any regard at all to the general conditions or the needs of the market. Then, again, many of these operators who buy cars have to depend on an uncertain drifting outlet for distribution, not having any regular established merchandising outlet.

"I submit that these conditions are capable of being absolutely changed and order and system introduced in our business, the same as [in] other lines. I also claim that on account of the perishable nature of this business, it is all the more necessary that we should have order and system."

He urges the reorganization of the business on commercial lines "instead of depending as we do now on an unreliable, irresponsible, unintelligent aggregation of the most illiterate and often the most unscrupulous class of peddlers and foreigners who are now a large factor in this distribution proposition."

Section 34. Control of Flow to Market.

The obvious need of a device for steadying the flow of supply to a market is very great when the irregularities in this flow can produce disastrously wide price fluctuations. The Bureau of Markets' daily perishable food survey is a large factor in equalizing distribution, but it sets up a secondary consequence that is bad: the more widely advertised the shortage of one market and

the surplus of another, the greater the diversion from the second market to the first market, which sets up in somewhat less degree as bad a situation as the situation to be cured. The defect lies in the absence of a clearing house through which the foods are dispatched under a single control. One of the very large advantages of growers' associations is that among themselves through their associations this clearing may be effected. But the advantage reaches no further than the members of the association, and is limited by the uncoordinated rival movements of competitors.

In order to meet this difficulty of unequal distribution within the metropolitan area itself, the only solution which the trade offers is that of the unified market where all the goods are physically assembled. Obviously, this is a very limited view of the situation.

B. MARKET FUNCTIONS.

Section 35. Price Making.

The great function of the market as a price-making facility gives the New York market a significance even out of proportion to the volume of business there directly transacted. The strategies of the business in marketing well-known brands of perishables available to several different markets where the custom of the trade has made the New York price the reference price, center here in this New York market. These traders may collectively make the price by an exchange sale test, to which they later refer all their transactions, or by direct negotiations. But a very large part of the strategy lies in creating the conditions which other traders by intuition come to follow, which are reflected in a published price or the price of the leading trader.

Stability and range.—The bane of the produce market is the extreme instability of prices. Picking at random one of the price-current sheets of Urner-Barry (Oct. 18, 1918) and making an arithmetical average of the ninety-odd quotations of vegetables without any effort to weight them individually according to their significance, there is a range roughly amounting to 70 per cent between the high and the low in one day. These figures, we must remember, have already been corrected for very wide extremes by the expert judgment of the price reporter; it is evident how great this instability is. No other market in the city of New York could endure such a range. A 4 to 5 per cent change in the wheat market in a day is considered most extraordinary, and when it occurs it brings disaster to many, yet the perishable-produce market survives with an average daily range of eight to ten times as much.

The factors in these violent price changes are many of them accidental and in themselves trivial. Larger concert of action in dispatching and routing to market and in steadying the flow to market, and larger facilities for stimulating or discouraging the demand of the consumer to adjust this demand to the shifting volume of the producer's output could go a long way to stabilize these differences:

Factors in price making.—The factors contributing to make the price are:

1. Habitual price.
2. Price of previous day.
3. Goods arrived in their relation to usual supply and consumption.
4. Amount of goods "rolling" to the city within striking distance of the market.

Price for the day: Collective judgment.—Since the price situation rests upon the daily arrivals at market, which may vary greatly, there is a general tendency toward a price for the day, based upon the daily situation, which is restated each day when the price is likewise revised. This is in line of a ten-

dency to stabilize prices and eliminate accidental influence of trivial conditions during the day. The various devices of prices based upon public exchange quotations or Urner-Barry reports or prices negotiated by a committee, which may be said to be collective bargains, are natural methods of simplifying and making certain the market process. Like any collective bargain involving the intervention of agents acting for the vast body of principals on either side, there must be honest men to administer the trust that must be reposed in somebody. But the exercise of a collective judgment in this way is in itself feasible.

Consumers' remoteness from the price-making market.—The great body of producers and of consumers is only very indirectly present through representation by the commission men and dealers. While the producer gets the direct advantage of such price as may be made the New York consumer is removed two or three ranges back from the primary market; of the sharp price changes in his favor he gets almost no advantage, as they are very largely absorbed by the intervening dealers. This is explained by the fact that the day-to-day market information of arrival and "rolling," which is reflected in the price among the dealers, does not get back to the New York consumer. Even if this market information did regularly get back to the ultimate consumer, he has not the habit of adjusting his daily food program to these shifting conditions. This was indicated by lack of public response to the published prices circulated by the Food Administration during the war.

Section 36. Publicity—Reporting.

The market is the great concourse of supply and demand where all the factors affecting the trade are matters of current information to all. It offers the basis of publicity of price and the publicity of general facts bearing on the market situation, such as actual supply in the market, supply coming to market, the general condition of the supply, and temper of the consumer; but none of these accessory functions are performed by the market itself in an organized way. Either the private agency on the one hand or the National Government on the other takes care of the form and compilation of the publication of market information. There is an exception in the case of the live-poultry market, where now each dealer chalks up daily on a bulletin board his own arrivals and consignments known to be "rolling" to market.

Private agencies.—The market is served by two public price reporters, namely, the Urner-Barry, an old established agency that is the principal reliance of the trade, and a later and a more restricted service. The Urner-Barry Co. covers the market by three members of the firm assigned, respectively, to the poultry, the butter, eggs, and cheese, and the fruit and vegetable trade. These gentlemen have all been in the business of gathering prices for many years and have a familiar knowledge and personal acquaintance in the trade that gives them rare facility. For they must know not only where to find the trading, but also how to weigh properly all the factors in bids, offers, and partly consummated trades, to properly accredit information given them, and to weigh with due significance the different actual prices by different firms and price ranges by the same firm in one day. There is such change and variety of price that accurate inclusion of every actual price not only would be impossible but would only confuse. They therefore are forced to exercise for some of the commodities considerable judgment in naming a price range that is fairly representative for each commodity. These daily quotations cover some 100 commodities and grades.

With the prices they publish daily information of visible supply, and all current local conditions, which tend to determine prices.

The Urner-Barry Price Reporter commands the full confidence of the trade. It has become so far the reliance of the dealers, as has been seen, that a very considerable volume of the whole trade in butter and eggs and some perishables is made without specifically naming the price at the hour the trade is made, but subject to Urner-Barry prices of the day.

The information on which the Urner-Barry prices are made is gathered in the forenoon. The figures issue from the press by 1:30, and by 4 in the afternoon all the price sheets have reached the subscriber.

Government bulletins.—Within the past three years the United States Bureau of Markets has inaugurated a government daily perishable food survey and price current of the principal markets. By a system of leased wires they very generally cover the country. Their function is to furnish the information that directs the interstate movement from producing districts to markets, while the private agency of Urner-Barry serves the immediate local requirements.

Section 37. Grading and Sampling: By the Trade, by Official Agency.

The New York produce trade has evolved its own unformulated standards and grades of the commodities to promote facility in trading. It has a considerable body of trade names and grades which are the basis of price quotations, such as "Sunkist oranges," etc. Some of these are local to New York, but most of them originate with the producer, and are generally standard at several other markets. The trade has evolved its own unwritten ethics of fair and unfair trade practices. These definitions tend to become more certain and precise. In default of a regular trade machinery to formulate and enforce them, their interpretation and enforcement come to be based on individual reputation for reliability and fair dealing.

The only fully standardized perishable that reaches the New York market is milk. The established grades of milk are exactly defined in terms of minimum of butter fat and maximum of bacterial count. And incidentally, in connection with milk it is interesting to note that the delivery to the individual consumer is standardized both as to time and quantity; that is, it is upon a schedule that is made monthly and can be anticipated and provided for by the producer. The glaring defect in milk deliveries is the overlapping of milk routes.

In the butter and egg trade, which is better organized than the fruit and vegetable trade because the commodity can be kept and can be more easily standardized, there is a very definite use of grades and official samples, which greatly facilitates the trading process. There are four grades of eggs, and five grades of butter registered on a scale of points called the official score. The exchange has its official graders and inspectors. In Irish potatoes the grades of the Bureau of Markets have been pretty generally used.

Western fruits are sold by brand and sample, as also southern truck from Florida, Louisiana, and Texas, in localities which have established a reputation, and the fruits of Georgia and Alabama; but of official sampling and grading there is none outside of the butter and egg exchanges. There is no recognized private agency for this work comparable to the grain samplers in the West. Inevitably in practice the great body of transactions is by sample, but the sample is made by the buyer or the buyer's direct agent.

The grading of perishables encounters difficulties, but unquestionably much can be done in this direction which would simplify and standardize the terms of the trade. In respect to sampling, there are no practical restrictions such as are found in grading only. All that is needed is the establishment of a comprehensive plan honestly administered.

C. SOCIAL DIRECTION OF THE MARKET.

Section 38. Market Regulation.

Partly through lack of sufficient self-imposed regulation of the trade by voluntary association among the traders, and partly through defect of such self-imposed regulations as there may be, there is coming to be municipal, state, and national regulation. These regulations frame up the conventions of the trade, define the trade unit and the circumstances and terms of delivery, and so tend to make the process of exchange socially efficient.

National container law: Standard base unit.—Following the first requirements of absolute standards of measure has come the National Container Law, which specifies the standard base unit and the standard multiples of this unit in which the particular commodity of interstate trade shall be publicly sold. Formerly there was indefinite variety, such as unmarked berry boxes that were less than a quart, and peach crates of 27 and 29 and 31 quarts. Some of these variations may have been without malicious intent, but it is probable that most of them were designed to confuse or deceive the ultimate buyer. "Freedom of trade" such as this dies hard, and those interested have succeeded in so framing the New York State law that the container does not have to be a standardized multiple, provided its capacity or the weight of the container itself be properly marked.

A law intended to enforce selling in containers by net weight permits short-weighting. In the butcher trade alone this short-weighting, due to paper wrapping with the weight of the meat sold, was estimated by the Food Administration during the war to run to a loss to Greater New York of \$766,000 every year. The fraud on the public in substituting non-Kosher for Kosher beef was estimated at \$2,426,000 per year.

"Sulzer Red Apple law:" Standardizing commodities.—From standardized containers it is but a step to standardized grades of the commodity itself. The so-called Federal "Sulzer Red Apple law," which defines a red apple, has led the way for Federal standardization of perishables in interstate traffic. For only a few fruits and vegetables so far have standards been worked out, although some 20 commodities constitute the Government's present schedule of perishables to be reduced to grades. The difficulties in making grades of such variable commodities as fruits and vegetables so different in different localities and in different years are well known to be almost insuperable; but so much headway has already been made in evolving these standardized grades that it is reasonable to expect the results ultimately.

The New York State law specifically provides for grading of apples, and also of peaches, but for peaches the grading is not compulsory. Furthermore, the New York State Department of Farms and Markets has power to make rules and regulations "for the grading, packing, and handling * * * of all food-stuffs not contrary to law, to enforce such rules and regulations by actions or proceedings in any court of competent jurisdiction." In addition to the powers of State regulation of grading, the Commissioner of Public Markets of a city is given the power by the State Farms and Markets Law to make, amend, or repeal rules for the "establishment of standards or grades for different classes of market produce not inconsistent with law or with the rules of the State Department of Agriculture, Food, and Markets."

So far, the New York perishable produce market has not made use of official grades of fruits and vegetables except for apples and Irish potatoes. The State and city departments have not promulgated grading regulations under their specific grant of power to do so. This is explained as due to lack of provision for the proper enforcement of any grading rules which they might issue.

The following governmental agencies have been factors in commodity standardization:

(1) NEW YORK CITY COMMISSIONER OF WEIGHTS AND MEASURES.

The New York City Commissioner of Weights and Measures is a potent factor in the market today. But "there are nevertheless extensive violations of the existing laws not alone by retail stores, but by wholesalers * * *."¹

The lack of sufficient force of inspectors is urged in explanation of the inadequate enforcement of the law. The law itself is defective in its punitive provision; violators may be fined for second offense on the same basis as for an original offense. The fine being nominal, the offense can be repeated indefinitely without interfering seriously with the business of the offender, and at no time publishing to his customers the fact that he has been a violator of the law designed for their protection. Naturally, in the enforcement of the law especial emphasis is placed in the miscellaneous retail trade where the greatest irregularity would be found. The small dealer, but especially the push cart peddler, who has no fixed locality, is difficult to regulate.

(2) NATIONAL BUREAU OF MARKETS.

The National Bureau of Markets has stationed at New York several expert inspectors whose services are available on request, as referees in disputes as to condition and grade.

(3) UNITED STATES FOOD ADMINISTRATION.

The Food Administration carried the matter much further. It set up standards of trade efficiency, viewing the trade as a social function. Cumber-some, inefficient, or manipulative methods were taboo. It supervised the New York produce-market operations "to know that the food supplies of the Nation are moving through the most economic channels and to detect manipulation and injurious speculation, hoarding, unfair, and wasteful practices, unreasonable and exorbitant profits." By means of a license system it was in position to administratively enforce its regulations. It conceived it to be the function of the produce market generally, and New York particularly, "to keep perishable products moving freely into consumptive channels consistent with equitable and even distribution over the normal season of any particular commodity, at the prevailing prices determined by an open, unrestricted market, without manipulation, monopoly, or by taking advantage of temporary emergencies, or artificial conditions. The supreme duty of every one engaged in the fruit and vegetable industry should be to direct the flow of products to the homes of our citizens in the most economical manner." As measures to promote these conditions, it specifically forbade resales within the trade or dealing in "futures" in dairy produce, or extraordinary accumulation, except with reference to a specific distribution to which the trader has regular access, or the withholding from the market "beyond the point of safety to the physical value or wholesomeness of any commodity, or holding for unreasonable gains, or selling futures." The Food Administration regularly policed the New York produce market to see that its regulations were obeyed. For instance, in the past it was a common practice on the butter and egg exchanges in New York for butter and eggs to be "resold" several times among the wholesaler, jobber, and speculator before they would reach retailers

¹ New York State Reconstruction Commission, pp. 43, 44.

and consumers. In one instance a lot of 50 cases was traced from sale on the Exchange by the original receivers to seven different traders in five days, during which time the eggs were not moved from the possession of the original owner.

The Senior Market Inspector of the New York City Food Administration testified as below:¹

"Gambling in dairy products on the various exchanges throughout the country is the worst of these evils. This evil is now being suppressed by the United States Food Administration. When the New York Federal Food Board was organized and the Federal Board at Washington issued rules against future sales and also resales in the trade except from one class to another, or from shipper to wholesaler, wholesaler to jobber, jobber to retailer, and retailer to consumer, with provisions for cases of great necessity, many merchants and traders thought the rules would not be enforced on the Exchanges. In the past it was a common occurrence for butter or eggs to be sold and resold several times among the wholesaler, jobber, and speculator before it would reach retailers or consumers. Also the trading in futures was a common practice on the Exchanges in this city, and in making an examination of the books of the New York Butter and Egg Exchange, I found records of sales of cars of eggs sold from 8 to 10 months before the eggs were laid. Speculation of the rankest description, changing hands week after week and month after month, driving the price up on something that did not exist. So common was the practice in the trade to speculate that it was recognized as legitimate business in the market and on the two Exchanges in this city.

"From October, 1917, to January, 1918, very little attention was paid to the rules of the Food Administration by the trade in this market. The local Food Board then appointed a dairy expert, with title of Senior Market Inspector, to try and prevent gambling and to see that the rules of the Federal Food Board were enforced.

"Headquarters were established on the Exchanges and by closely studying the working of the Exchange it was soon discovered that a few operators were running the Exchanges and were paying no attention or heed to the rules of the Food Board.

"The records show plainly that a great deal of the speculation has been eliminated from the trade. All honest traders have given this reform their hearty approval and the hope is entertained that if the Food Board should cease to exist after the war, the regulations of resales and future sales in the Butter and Egg trade will be adopted by some other department of the Government. This work could be ably handled by the Bureau of Markets. The elimination of gambling in dairy products would not only bring greater returns to the farmer, but would mean millions of dollars saved to the consumer that now go to the speculator, for by his manipulations he depresses the market when he wants to buy and raises the market when he wants to sell."

The potency for good of the Food Administration came to be recognized very frankly by the New York produce trade. In a large number of interviews had by the Commission with leaders in the trade, their consent to and approval of the wise course of the Food Administration was an outstanding fact. The practice of destroying quantities of produce to hold up the price was almost entirely eliminated through the alert watchfulness of the Food Administration.

The municipal, State, and national regulations that surround the New York produce market dealers are to facilitate existing markets. The Food Adminis-

¹ The City and State and National Food Administrations were consolidated in the war under the direction of the National Food Administration.

tration, which was distinctly constructive, went further and ruled against practices that are unfair in that their interest is to disrupt existing market machinery by crippling some one of the middlemen. The trade has set up its standards of commission and brokerage fee, of settling with principals at the actual market instead of on the basis of over quotations. To ignore these agencies or to regularly try to short-circuit and cut out one of the well-established gradations in the distributive machinery is to vitally imperil a regular service.

But it frequently happens that a service which was once fully economic and exacted no more compensation than it was worth has later become obsolete. It is conceivable that the individual dealer might have such vision and constructive genius as to devise a new situation to which he could shift his operation and still render indispensable service, while cutting off obsolete practice, but it is not a usual thing for him to be of such spirit and capacity.

Section 39. How Regulation Becomes a Social Function.

When the correction of an uneconomic system is too large an undertaking for the individual trader, it is beyond remedy in the usual competitive processes; the remedy lies with the trade as a whole. But if the burden has been already passed on safely to the consumer, the trade has no interest in effecting an economy in which it will not directly share. If, furthermore, the trade processes have been erected upon the existing uneconomic situation they may be jeopardized or even actually impaired by drastic revision; the trade will then be apathetic and even positively opposed to correction. Remedy must be sought quite outside of existing trade interests. Then is the time when the consumer, in the person of some supervisory agency, municipal, State, or national, should be on the ground to assert his interest.

Special need of New York City markets for regulation.—The present city of Greater New York is said to be an aggregation of some 55 small towns and communities, each of which started without any specific reference to any other, or any scheme of the whole. And the New Jersey cities in the metropolitan district have also grown out of similar conditions. The private operations that were identified with each of the local units within this district were conceived and undertaken for local uses. With the merging of these small towns into larger towns and those larger towns into cities that in New York became boroughs of the larger city, many former services and uses became obsolete. The revision of terminals and markets has been deferred too long. It is out of hand. The operations become partly obsolete are now grown to be large interests, established and closely interwoven with the general fabric of the city's prosperity. The revision which will rearticulate and adjust the parts to new conditions must come from without the interests themselves, perhaps must be independent of the local situations entirely. Under pressure of a great emergency only could those who serve the New York market reconceive the relations of parts and individual interests so that they shall accord with actual present conditions.

Physical plant and competitive processes no longer serve the city.—As the physical plant and facilities in and through which the trading function operates must conform to the requirements of the city as a whole, so also the competitive activities must be directed to the most efficient use of these physical plants and facilities and the largest effective service of the city as a whole.

Unregulated competition will not reform the trade.—The whole situation must be reinventoried for the public. The mere undirected play of the law of supply and demand will not automatically effect the revisions and work out some of the things which the city as a whole must realize from the trading function.

The market must be integrated with the community's current needs and natural growth and in harmony with its largest industrial functions. Ill-considered competition, reckless and inefficient practices must give way; individual enterprise and activity must be made to accord with larger public policy where their function is definite and sure. The competitive activities must be directed by regulations to cut out wastes by misdirected effort, neglected precaution, misrepresentation, unreliable and indefinite service, avoidable instability, and unnecessary risk.

Section 40. Remedy Lies in Extension of Market Idea.

The New York produce market can not be considered as a thing apart. Into the general metropolitan scheme of terminals, local interchange, and markets it must fit as an integral part. And the market function itself must be apprehended in its broadest aspects. Some of the adjustments to secure equalization of opportunity may require absorption of strategic advantages that individuals have acquired by foresight and diligence. A prospect of drastic economic leveling up that shall wipe out such differences of situation and development, although they have been capitalized and become property rights, should not deter if the public interest requires. The conception once formed, the process of adaptation with least inconvenience or injustice to all present interests must be thoroughly worked out until every element of the situation is reduced to the common denominator of a common single interest.

The era of the small town whose perishable foods were supplied from the immediate countryside is past. The supplying of the needs of a great city is no longer the casual affair of farmers with their market wagons and of housekeepers with their market baskets. It must quickly take the form of a highly organized industry devoted to the vital needs of the vast urban populations that have foregathered within the metropolitan district. The whole industrial efficiency of the city is involved in this question of cheap food, and because New York is the great Atlantic gateway of the country the problem of the efficient feeding of New York City widens to a national problem. Most of the suggestions that have been offered have been marked by one or more advantages, but because the problem has not been frankly attacked in its broadest aspects they have not until now been able to rouse public opinion.

Section 41. Public Consciousness of Need for Revision: Interstate Outlook.

It is coming to be understood that the food distribution of the New York metropolitan district, together with all of the conditions under which it is performed is a positive public concern quite beyond the concern of the individual traders who happen at the instant to be performing a particular transaction or group of transactions. At last the full conception of the problem is attained when the community served boldly adopt the New Jersey and New York outlook and further set that against the background of the national function of New York in its relation to other ports, and even include some international perspective. To such proportions has the problem now grown. There must be a distinct New York-New Jersey consciousness, which consents to put every part of the conceived general area on a basis of absolute equality with every other point in that area in respect to certain large general functions.

Section 42. Solutions Offered.

As to solutions proposed from time to time dating back as far as 1877, alert minds have come forward with suggestions bearing authority of the personal standing of the particular individual advancing them. Later, as the idea took root these propositions carried the authority of certain civic bodies and still

later of commissions of the city itself. There are at least as many as 35 different propositions which have been more or less seriously put forward since the problem has arrested attention.

As to the physical arrangement, Mr. I. T. Bush, of the Bush Terminal, lays down the principle that should govern in the facilities of the terminals that should serve the New York markets. His fundamental idea is that every point of a given area every day should be just as directly placed with reference to destination and sources of freight, as every other point. By this means only would every part of the metropolitan area have equal market facilities. He urges that the failure to understand this primary term of the physical requirements of the terminal has compromised many of the projects offered for solution of the New York situation. As it now stands, each road in order to protect its own freight discharges only the freight that comes over its rails. Because it restricts its terminal deliveries to the business that originates on its lines it is forced in order to give any service to the city as a whole to fix its discharging and receiving stations in each of three zones in Manhattan, along the North River, which every competitor is likewise constrained to do. This results either in lack of service to the zones covered or expensive operation to the railroad, due to duplication of service rendered. The unit of movement to each of these points where the freight is received and discharged should be, in his judgment, the full freight carload. He believes there can be no perfect terminal system, which in turn is essential to a market system, without a transfer yard with highly equipped transfer sheds through which all freight to and from the city should move when it is organized for the outward road movement, or for the highly classified inward movement to ultimate city destinations. He would run a trap car at as frequent intervals about the city as the movement justified, each car bringing to its zone and there delivering all the freight by every railroad and from every source destined for that particular zone. Modern facilities would go far to simplify and expedite the necessary transfers through the general transfer house and the transfer yard.

During the war, under pressure of the enormous tonnage thrown on the railroads, partial solutions were urged by local associations in conjunction with the Interstate Commerce Commission which partly incorporated the principles laid down by Mr. Bush. In this extraordinary situation the railroads, to a limited degree, pooled their facilities and the public under a patriotic motive were induced to cooperate in organizing the freight in their own warehouses, consolidating two or more days' forwardings to, or two or more days' deliveries from, specific points into single "sailing days" or single "receiving days" each week. But all solutions offered could accomplish little, because of the lack of the transfer facility, which, as Mr. Bush points out, is the cornerstone of any system of terminals.

EXHIBIT II.

BRIEF SURVEY OF SEVERAL REPRESENTATIVE MARKETS.

Section 1. Boston Produce Marketing Facilities.

Transportation and terminal facilities.—Produce from the farms within a radius of about 25 miles is trucked into Boston. All foodstuffs from beyond this radius are brought into Boston by three railroad systems, several steamship lines, and trolley freight.

The Boston & Albany Railroad, running across Massachusetts to Albany, N. Y., taps the territory west of Boston and, by connection with the New York Central Lines, brings in goods from the States of the middle and far west. The Boston & Maine Railroad, with lines running out of Boston to the north, northwest, and west, gives service to and from all points in Maine, New Hampshire, Vermont, and western Massachusetts and also, by connection in New York State with other railroads, is able to bring in goods from the great producing areas of the West. The New York, New Haven & Hartford Railroad covers Rhode Island, Connecticut, and southeastern Massachusetts, connecting Boston with New York, and thereby with all southern and western points.

The Boston & Albany and the New York, New Haven & Hartford come into Boston on the southern side of the city, while the Boston & Maine enters at the north. The terminals of importance to produce dealers are those of the New York, New Haven & Hartford Railroad, located in South Boston about a mile from the wholesale-market district, and those of the Boston & Maine Railroad in the Charlestown district and over a mile north of the market. These terminals have been left entirely to the railroad lines so far as furnishing facilities is concerned. As a result, the railroads have done just enough to hold their own traffic but practically nothing to develop and increase the traffic by attracting other business to the city. There is a total lack of modern facilities for the handling and care of foodstuffs at the terminals, and only about half the business is therefore being done which would be done with proper facilities. At these terminals there is no adequate warehouse space, absolutely no cold storage, no facilities for the wholesale selling of fruit and produce (except of potatoes and fruit at Charlestown), and one of the greatest needs is a terminal facility permitting the rebilling of cars out of Boston on through rates, since Boston is a center of distribution for many sections of New England.

The fruit auction is located at the terminal in Charlestown, where about 7,000 cars of fruit are disposed of annually. The accommodations are cramped and unsatisfactory. Facilities for trucks and wagons getting to the platforms are inadequate and the conveyor system has to stop at times on account of the congestion. Most of the potatoes arrive at the Charlestown terminal and are sold there, while all Southern produce comes in over the New York, New Haven & Hartford into South Boston.

The transportation of foodstuffs to Boston by water carriers, aside from tropical fruits, is relatively unimportant. Most of the vessels dock at the New Haven and Commonwealth piers in South Boston, or at one of the wharves

along Atlantic Avenue, east of the market district. The following are the principal lines of vessels coming into Boston:

Steamship line.	Ports.	Terminal.	Foods.
Merchants & Miners Transportation Co.	Philadelphia, Pa.; Baltimore, Md.; Norfolk, Va.; Newport News, Va.	New Haven Pier.....	Potatoes, berries, peanuts.
Eastern Steamship Co....	St. John, New Brunswick; Portland, Me.; Bangor, Me.; Bath, Me.	Central Wharf.....	Garden truck of all kinds, oysters.
Metropolitan.....	New York.....	Union Wharf.....	Tea and coffee, macaroni, grapefruit, oranges.
Savannah.....	Savannah, Ga.....	Lewis Wharf.....	Lard, fruit.
Clyde.....	Jacksonville, Fla.; Charleston, S. C.do.....	Fruits, garden truck, coconuts.
Maine Coast Transportation Co.	Machiasport, Me.....	Long Wharf.....	Fish.
United Fruit Co.....	Port Limón, Costa Rica.do.....	Bananas, molasses.
American Hawaiian Steamship Co.	Portland, Oreg.; Seattle, Wash.; Tacoma, Wash.; San Francisco, Calif.; Los Angeles, Calif.	Commonwealth Docks..	Canned goods, prunes, apricots, peaches, wine, chocolate.

None of the steamship terminals has any special facilities for handling or caring for perishable foods nor have they any connection with the market district except by truck. Near the Commonwealth Docks in South Boston is located the Fish Pier where to-day practically all the fish business is conducted. This is a modern structure and well equipped for receiving the fish brought in by the fishing vessels which bring their catch even from such distant grounds as those of Newfoundland. Adequate storerooms and cold storage facilities are provided for dealers. This wholesale terminal market for fish is well located except that such jobbers and retailers as desire to buy meat or produce as well as fish have to make a considerable trip from one market to the other.

The electric trolley lines are as yet used only to a limited extent for freight transportation. The districts to the south and west of Boston which have the advantage of the electric freight have shown an increase of farm production. The large strawberry production at Dighton, Mass., has been attributed in part to the advantages of trolley freight. As yet, however, these electric trolley freight lines are not able to come into the market district, and to make the connection between market and trolley, trucks are employed. There have been some recommendations that tracks be laid in the principal market streets for use during the night in bringing in produce from the country districts and for loading with such tropical fruits and other goods as are shipped from Boston to the surrounding territory. Until some such plan is adopted the trolley freight lines, while of much advantage, add to the number of terminal points to and from which goods must be hauled.

Expense and loss in cartage.—While the length of hauls in Boston from the terminals to the stores of the wholesalers and jobbers is never so great as some of those in New York, the congestion at the terminals and more especially in the market district is most serious, causing almost as much expenditure of time and waste of produce as do the longer hauls of the other city. This is especially true in the summer when perishable fruits and produce are being received. Practically all the southern produce, and some of the western, comes over the New York, New Haven & Hartford Railroad and every bunch of asparagus, every basket of strawberries or of peaches has to be teamed from the New Haven yards in South Boston to the market district. It sometimes

takes a whole morning to make one trip from freight yard to market. The loss and added cost under present conditions are very great, and make the shipper of perishable goods disinclined to send goods to Boston.

The congestion and the street blockades that occur through every truckman trying to get ahead and save as much time as possible in getting his load to its destination where it can be unloaded and sold, are too great to be easily described. One commission merchant reports that trucks have taken twenty minutes to half an hour to come from the Custom House to his store, a distance of not more than one ordinary city block. Another dealer states that sometimes it takes two hours to get from the Custom House to his store, not over three blocks away. The effect of such delay on perishable goods in the ever varying Boston climate is very detrimental. The expense of this cartage amounts to hundreds of thousands of dollars in a year, which would be saved, as would be the deterioration of goods in cartage, if the food could be unloaded directly from cars into the market.

Storage facilities.—Dealers in Boston do not complain so generally of lack of sufficient cold storage as do those in some other cities, although many of them state that the facilities are inadequate for the requirements of the market. The complaints are rather of the monopolistic control of the storage space, and dealers feel that any move which would give Boston more cold storage so that it could compete for patronage with the already existing warehouses would be beneficial, forcing a reduction of excessive charges and burdensome rules and regulations.

The Boston Terminal Refrigerating Co. is controlled by Armour & Co., which owns the entire issue of common stock. The Quincy Market Cold Storage & Warehouse Co., whose plant is said to be one of the largest in the world and which is that principally used by produce dealers, has no such single dominant interest in control. There are no cold-storage facilities in connection with the railroad terminals. All perishable goods must be unloaded, carted to the produce market district and sold as rapidly as possible or they must be trucked to the cold storage plant to be held until needed.

The market district.—The principal market district of Boston is situated at the commercial center of the city and embraces about 30 acres in the immediate vicinity of historic Faneuil Hall. Faneuil Hall was opened as a market house in 1742. Its first floor and basement and the sidewalks around it are still used for the sale of meats and produce. The New Faneuil Hall Market, known also as the Quincy Market, was built in 1826 with only a street separating it from Faneuil Hall. These two market buildings are owned by the city. The stalls inside are chiefly for retail business and rent for \$3 to \$3.62 per square foot. Space in the cellars, principally occupied by wholesalers and jobbers, brings a rent of 95 cents to \$1.40, and the sidewalks, which are occupied on all sides of these buildings, bring a rental of \$1 to \$3 per square foot. These buildings are old and rat infested and are not equipped with running hot water. On North-Market and South Market Streets, across from these market buildings, and on streets about this area, are grouped all sorts of dealers in foodstuffs. Farther to the east is the Clinton Market, a privately owned building principally occupied by large wholesale meat firms.

The buildings throughout the market district are generally old and inadequate for the present-day market of so large a city. The streets are narrow and invariably congested. Police are constantly at hand to keep traffic moving, but delays are common and the length of time required to move goods into and out of the market district adds greatly to the cost of handling and increases the loss by deterioration. The streets are poorly paved with cobble stones and are generally in poor condition. The pavement is so sunken in

many places that there are large areas which retain the water in filth-filled puddles when the pavement is flooded. When the pavement is dry the wagons and horses scatter the dirt and on windy days it is blown into the stores and scattered over the food. Except for a few cars that bring meat into the Clinton Market, there are no modern facilities for handling and distributing the products brought into the market district. All must be brought in and taken out by trucks.

The Boston Market is lacking in the primary requirements of space, conveniences for handling and displaying the merchandise, and in suitable transportation facilities. It is so close as to be a natural part of the financial district, thus adding an element to force high rents which constitute an unnecessary tax on food consumers. The Directors of the Port of Boston in 1915 made a comprehensive report on market conditions in Boston and recommended the establishment of a wholesale terminal market in South Boston on land adjacent to the New Haven freight yards and near the Fish Pier. During the war this property was acquired and improved by the War Department. Huge warehouses and wharves with the necessary track and truck approaches have been built, and only a certain amount of interior construction and rearrangement and the installation of switching tracks remain to be done. When the Army no longer needs these facilities a very favorable opportunity will be presented here for the establishment of a modern market with rail and water transportation.

Section 2. Pittsburgh Produce Marketing Facilities.

Special conditions affecting this market.—Pittsburgh is not only a large consuming market but also an important distributing center, since a large number of industrial cities and towns are supplied from this city. The territory from Johnstown, Pa., to Youngstown, Ohio, is regularly supplied and many goods are shipped beyond these points.

This territory is not a rich agricultural section and the amount of produce grown within it is insignificant compared to the population. Any consideration, therefore, of the problem of marketing in Pittsburgh must include attention to facilities for outbound as well as inbound shipments. Until the nearby farms are developed much more fully than at present, little attention need be given to the handling of locally grown produce. Such local produce as reaches Pittsburgh at present goes directly from the grower to the retailer or consumer.

The topography of Pittsburgh increases the difficulties of marketing. The city is divided by three rivers and has many high hills and deep valleys, scattering the population over a wide area and making deliveries expensive. The railroads are in the valleys and there is no belt line reaching all sections. The space in the down-town section is very limited by reason of the junction of two rivers, and because of the high hill rising a short distance from the river junction. The land values are consequently high. The streets are narrow and congested, making trucking through this section of the city very slow and expensive.

The produce yards.—The outstanding fact in the handling of fruits and vegetables in the Pittsburgh market is that most of the goods are sold in the railroad yards and a large proportion of the deliveries are made direct from the cars to the buyers. Several dealers, in fact, have no stores at all, their only place of business being that furnished by the railroad. Some of these dealers rent office space from the Pennsylvania Railroad Co. at very cheap rates. A very large number of dealers, however, have stores, but in most cases the sales from the stores are of less importance than those made from the cars. Practically all of

these stores are within two blocks of the southeast side of the yards, so the cost of trucking goods from the cars to the stores is not high.

The produce yards, where the fruits and vegetables are received, are located between the Allegheny River and Pike Street from Sixteenth to Twenty-third Streets. About 95 per cent of the fruits and vegetables are received in the yards of the Pennsylvania Railroad Co. and the balance in the yards of the Baltimore & Ohio Railroad Co., which are contiguous.

The combined capacity of the trackage used for produce in these two yards is 585 cars. The average daily receipts during October, 1917, were only 141½ cars, yet the yard was congested and cars often held for days before they could be brought into the yard, indicating serious delay in unloading and poor utilization of space.

During warm weather the cars held in the yard for sale are kept iced. In cold weather stoves are placed in the cars as soon as they are opened. Notwithstanding the stoves, there is a heavy loss of goods by freezing during extremely cold weather. In zero weather this loss is estimated to be 10 to 15 per cent of the goods received.

There is no cooler space for rent in this part of the city, and only a few dealers have small coolers in their stores. Any goods to be placed under refrigeration must be carted to other parts of the city. Because of the expense involved this is seldom done, the dealers preferring to sacrifice the goods.

The arrivals of fruits and vegetables are very irregular, varying greatly from day to day. One day the market may be overstocked, with low prices as a consequence, while the following day there may be a famine in the same goods. Were there better storage facilities the dealers would not be compelled to "clean up" daily and could carry goods over with a steadying effect upon the supply and hence on prices.

The great expense of doing business in the yards is the cost of employing the large number of necessary salesmen. Produce cars of each dealer are not bunched, and a dealer may have cars in all parts of the yards at the same time. A car salesman is needed for practically every car, and a so-called "lead" salesman must be kept in the "lead" between the tracks where the buyers and sellers congregate. If all cars for each dealer were delivered at one point, one salesman could replace five or six of those now required.

Dealers at the produce yards are practically unanimous in voicing the need of an unloading platform large enough to hold the normal day's receipts, and several express the desire also for modern market buildings with adequate storage space.

The butter and egg business.—Most of the dealers in butter and eggs are located in the Wabash Terminal, now operated by the Pittsburgh & West Virginia Railroad Co., which is located in the down-town section of the city. The stores are located beneath the railroad tracks. Goods which arrive over this road are brought down on elevators and delivered at their back doors, eliminating any inbound trucking expense. Refrigeration is furnished to the dealers by the terminal company at nominal rates and the facilities and methods of doing business on the whole seem to be good.

There are, however, two flaws to be noted in this situation. First, this terminal is served by only one road and this a road with an outlet only to the west, and even in this direction the connections are not especially good. As a result many goods arrive at other terminals and must be carted to the stores. This cartage is expensive and the extra handling involves some loss of eggs by breakage. Second, there is no available storage space except that in the various stores. Dealers desiring public storage are compelled to truck their goods to the warehouses unless cars are consigned there directly. When the

goods in storage are desired they must be carted from the warehouse to the store.

The live poultry business.—The live poultry, as well as some eggs, from neighboring territory in Ohio and West Virginia arrive principally at the Baltimore & Ohio freight yards just southeast of the passenger station. The dealers in live poultry are scattered, but many of them are located on Pennsylvania Avenue, in the vicinity of the produce yards. Shippers of this poultry accompany it to Pittsburgh and the dealers go to the freight yards to purchase.

The distance over which the poultry must be hauled from the yards to the stores averages about a mile, and in many cases the trucks must go through the very congested down-town streets. Were there a common operation of the railroads this poultry could easily be delivered in the produce yards.

Summary.—The present situation in regard to marketing in Pittsburgh shows three generally distinct lines of goods arriving at different terminals. With the exception of those butter and egg dealers in the Wabash Terminal, none of the dealers has an efficient arrangement or adequate facilities, and even for these few dealers there is lacking public cold storage, causing extra expense on shipments over other roads.

The present location of the produce yards seems to be the most practical location for a central terminal wholesale market. Because of the topography of the city and the location of the railroad facilities it would be impossible to find a location which would be in every way ideal. With the proper facilities the present yards would be large enough and no additional ground need be acquired. If additional space were desired it could be acquired without the razing of expensive buildings, as most of the structures in this section are old.

Section 3. Chicago Wholesale Marketing Facilities for Produce.

The facilities for handling perishable food at wholesale in Chicago are both inadequate and uneconomical. This situation effecting an appreciable increase in the cost of foodstuffs has within recent years been brought to the attention of Chicago citizens, with the result that there is much agitation for a better arrangement.

The principal wholesale perishable food markets of Chicago, determining conditions of both supply and prices for the whole city, are those at South Water Street and West Randolph Street. Other smaller and less important centers where some fruits, vegetables, and produce are handled at wholesale are at Kensington, Sixty-third Street, Maxwell Street and Fulton Street. The latter is practically limited to poultry, veal, and other meats.

South Water Street, Chicago's greatest market for all kinds of perishable foodstuffs, and said to be the "busiest street in the world," lies between the downtown business district, "The Loop," on the south and the Chicago River on the north. The market extending on either side of the street for seven blocks contains over 200 stores where about 300 firms, mostly commission merchants and jobbers, handle the bulk of Chicago's perishable food. It is estimated that approximately 50,000 carloads, besides a correspondingly large amount of less-than-carload lots of fruits, vegetables, and produce are distributed through this market annually.

The market buildings are old, poorly equipped and not adaptable to the business for which used. Inadequate facilities for displaying and handling of goods make it necessary for dealers to use most of the sidewalk space for these purposes. So congested is the sidewalk during the busy hours of the day with barrels, boxes, crates, and baskets that buyers can generally pass only in single file. The street is even more congested. During the active hours of market it is so crowded with teams and trucks receiving and delivering purchases that

traffic is seriously delayed. This sidewalk and street congestion, with little or no use of modern handling facilities, makes the conduct of the market slow and costly. Added to this is the extra loss and expense incurred on account of the general lack of storage and refrigeration equipment.

West Randolph Street is a smaller market and while it does not represent the features of extreme dilapidation and waste characterizing South Water Street, it also is inadequately equipped for the proper handling of perishable food. It is largely a market of smaller jobbers and commission merchants and of nearby producers who sell from their wagons and trucks parked in the center of the street. Compared with South Water street, there is little car-lot business transacted at the West Randolph Street Market.

The extra expense, loss and waste incurred on account of the inadequate facilities and arrangement of the South Water Street market, large as they are, are small compared with the extra expense and waste involved on account of the disadvantageous location of the market with regard to freight terminals. South Water Street has no contact with and is not easily accessible to any of the 27 trunk lines entering Chicago. Practically all of the different railroads have their own distinct and separate freight terminals and freight yards. These are from a quarter of a mile to over two miles from South Water Street. This means that most of the goods handled on this market must be carted to it by teams and trucks these various distances from the different terminals. Inasmuch as "The Loop" or main business district lies between South Water Street and the principal terminals, most of the traffic in carting goods to the market passes through this already too congested business section. The relation of South Water Street to the various terminals is shown by the accompanying map.

In addition to the expensive cartage feature, the cost and waste in distributing perishable food in Chicago are further increased by the fact that practically none of the freight yards is equipped to facilitate rapid and economic handling of fruits, vegetables and produce.

Cars containing refrigerated products are unloaded on platforms or in trucks exposed to the varying temperatures. Thus, it was found that goods arriving in good condition were damaged by this sort of handling. The team tracks and unloading platforms due to inadequate facilities are in a state of almost constant congestion. This delays distribution and causes additional deterioration of the goods.

A considerable amount of perishable foodstuffs both in car-lots and less-than-car-lots is sold at the terminal yards. The fact that freight terminals are widely scattered in Chicago necessitates extra expense and inconvenience in the matter of South Water Street merchants taking prospective buyers from one terminal to another to inspect goods. It is not uncommon for a firm to receive in one day five carloads of produce each at different terminals, thus requiring time and expense in locating, inspecting, and delivering.

Highly perishable fruits and vegetables arriving at the terminals in good condition quickly deteriorate in the process of being handled and carted to the market. Other produce, such as eggs, is frequently damaged. This loss and the expense, on account of the cartage of the great amount of perishable food that goes to South Water Street each day involving as it does the employment of about a thousand teams and trucks, amount to several millions of dollars annually. About two years ago, when a survey of this situation was made by Experts of the Chicago Plan Commission, it was calculated that these preventable expenses and losses due to the unhandy arrangement and location of the South Water Street market amounted to \$5,000,000 annually.

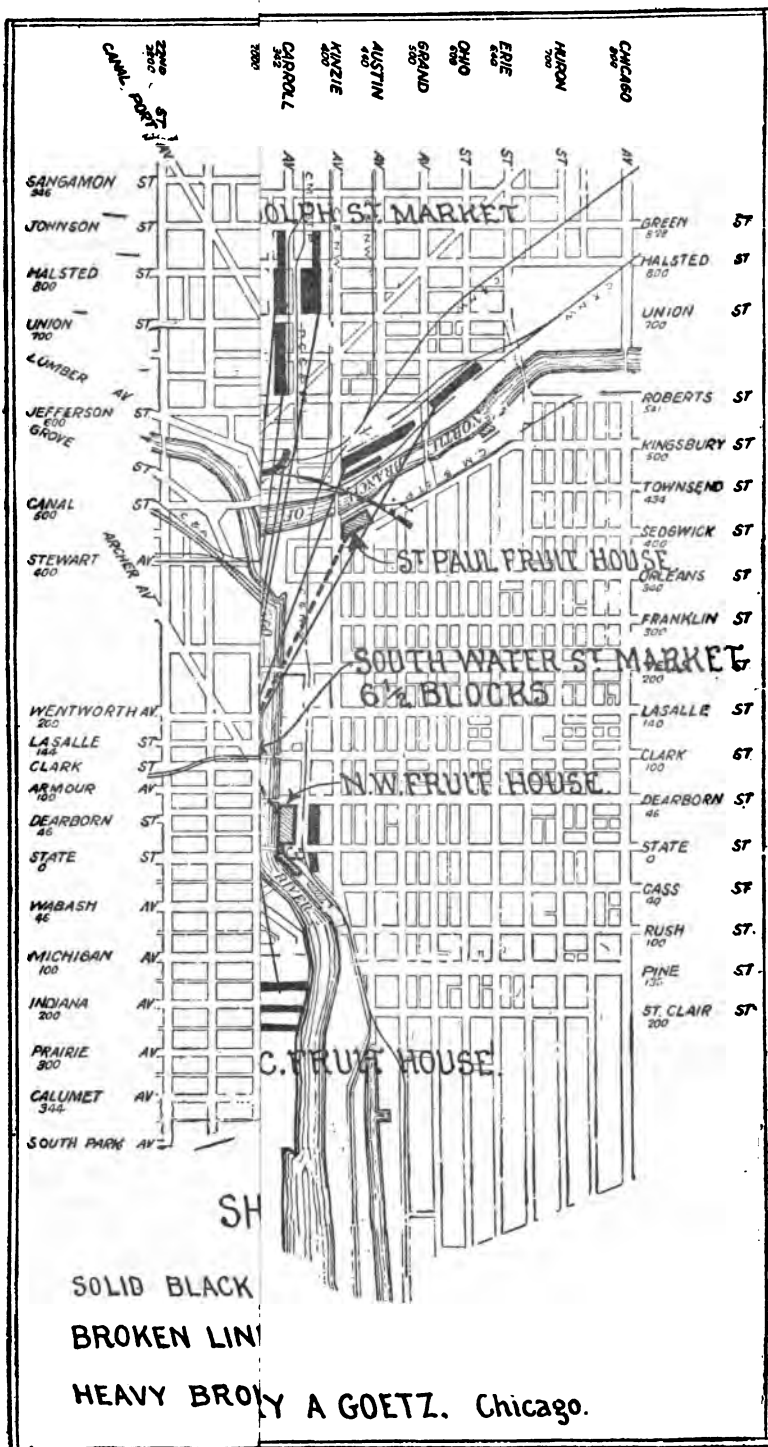
There are many different classes of dealers on South Water Street buying and selling in different ways, and the market exhibits many ramifications and unstandardized activities. Exact statistical measurement of the various market operations is not possible. Because of these facts and the fact that few records are kept in such shape as would yield the data desired, the Commission was unable to analyze the business transacted in such a way as to show accurately the total unnecessary expense and waste involved in distributing perishable foodstuffs through the South Water Street market as at present constituted.

However, certain comprehensive studies and tests were made covering the business of a number of firms—both those handling fruits and vegetables and those handling poultry, butter, and eggs. An effort was made to ascertain, first, the cost of cartage to and from South Water Street, and second, the shrinkage or losses on account of delays and inadequate facilities at terminals, the long hauls to South Water Street and the inadequate facilities at the market. The results of this study would indicate that the preventable loss calculated at \$5,000,000 by the Chicago Plan Commission is not overstated. With practically all products and cost of handling higher now than in 1917, probably \$6,000,000 would more nearly represent the amount producers and consumers could save annually by having a modern terminal market instead of the present expensive and wasteful South Water Street arrangement.

It is estimated that at least 180,000 cars of perishable food are consigned to Chicago annually, about half of which is distributed in the city, while the balance is reconsigned or shipped to other markets. While a large proportion of the goods consigned to Chicago but finally sent to other markets is transferred at or reconsigned from the outer freight yards, a great amount in both car-lots and less-than-car lots is reshipped from the inner or down-town freight yards. Handling of this big volume of perishable food through inadequate and congested freight yards, with all the extra handling and transferring under the present scattered terminals arrangement, results in a great amount of extra expense and shrinkage or damage of the goods. Not only then is there a decided economic loss in handling perishable food distributed in Chicago, but under the present transportation and terminal arrangement goods handled in Chicago for other cities are submitted to much expense and waste that might be eliminated under a modern unified terminal plan.

Section 4. St. Louis Wholesale Food Marketing Facilities.

Transportation and terminal facilities.—Nineteen railroads, in addition to four short coal roads, have freight terminals in St. Louis, Mo., or across the Mississippi River in East St. Louis, Ill. Facilities operated by the Terminal Railroad Association of St. Louis provide belt-line connections between these railroads, transferring through shipments between eastern and western lines and bringing cars across the river to terminals in St. Louis. The Terminal Railroad Association of St. Louis is owned by 15 railroad companies, but its facilities for handling freight into and out of St. Louis are furnished on equal terms to all railroads. The Association in turn controls, by ownership or lease, and operates as one system the properties of several other corporations, including the Eads Bridge Co., St. Louis Merchants' Bridge Terminal Ry., the Tunnel Co., the Wiggins Ferry, St. Louis Union Station Co., and the railroad yards, warehouses, and belt railroad lines in St. Louis and East St. Louis. There are 340 miles of track operated by the Association on both sides of the river and over the bridges. Freight stations are scattered throughout the wholesale and manufacturing districts, while spur tracks reach the various industrial plants. All roads use these tracks under uniform regulations and charges. Twelve railroads have freight yards in St. Louis, the others only in East St. Louis.



Directly east of the most active part of the produce market on Third and Fourth Streets are large freight warehouses of the Wabash and of the Burlington lines. There are team tracks at both the Wabash and Burlington freight yards, and considerable quantities of fruit and vegetables are unloaded for the market; but the yards are small and not intended so much to serve the produce market as to reach the extensive warehouses for general freight. The Frisco Lines have a freight yard with team tracks two blocks north of the Wabash freight yard and here some produce is unloaded. A considerable amount of the produce reaching the market is hauled from a freight yard at Montgomery Street, a mile and a half to the north, and from yards at Gratiot Street, about an equal distance to the south. A large amount also is carted across the Eads Bridge from the freight terminals at East St. Louis since some dealers prefer the trouble and expense of cartage rather than the delay and uncertainty of switching. After the United States Railroad Administration assumed control of the roads orders were issued for the delivery of perishable foods from all railroads to the Wabash Terminal near the market, whenever the receiver desired such delivery. Previously only cars routed over the Wabash lines were brought to this terminal; produce arriving over other lines had to be hauled from the terminal at which it arrived.

However, because of delay in getting cars transferred, and more often because of congestion at the near-by yards, many cars have not been brought in even after regulations permitted it. Therefore, in spite of an excellently arranged belt line and transfer service, dealers often have all the difficulty incident to scattered and numerous terminals, several across the Mississippi in East St. Louis, Ill., and some in various parts of St. Louis itself.

At none of the terminals used by produce dealers are there any special facilities for handling perishable goods. There are team tracks, but the space is congested and inadequate for the accommodation of all the produce cars. There are no warehouses for the preservation of produce at these terminals nor any special facilities for the sale of goods at the yards. In all cases there is some cartage required, varying from a block or two to several miles.

Storage and market facilities.—There seems to be ample cold-storage space for all the usual requirements of the St. Louis produce dealers in normal times. At the season for storing the apple and other crops from near-by States the space is sometimes all taken, and during the war there was some complaint that space was difficult to find, but this is not ordinarily the case. The only serious criticism of the cold-storage situation is one applying to the entire marketing situation, i. e., there is no wholesale terminal market into which all produce cars can be brought, where dealers may have their stores, and where goods may immediately be placed in storage.

The wholesale produce market of St. Louis is principally on North Third and North Fourth Streets, between Lucas and Biddle Streets, and on North Broadway from Franklin Avenue to Carr Street. The cross streets within this district are also mostly occupied by produce dealers. The freight houses of the Wabash and Burlington roads are directly east of the market on Third and Fourth Streets, and most of the fruits, vegetables, eggs, and poultry are brought there for unloading. The American Central Auction Co. has its office and warehouses on the tracks of the Wabash Railroad at Carr and Collins Streets, and from here all California fruit that passes through the auction is unloaded, largely to the jobbers. This part of the perishable foodstuffs, which amounted to about 2,100 carloads in 1917, therefore has most of the advantages of a terminal market, except that since the auction is located on one

railroad, dealers sometimes find it difficult to get consignments brought in by other roads switched to the auction in a reasonably short time.

The buildings throughout the market district are for the most part old structures of little value, while the land values are high. The stores of the dealers, however, are apparently of ample size and the streets are wide, so that there is no such congestion as is encountered in some other cities.

There is a farmers' market, officially known as the St. Louis County Producers' Market, located at Laclede Avenue between Vandeventer and Sarah Streets. There are five well constructed open sheds, 200 feet long and wide enough to accommodate wagons backed in from either side. In addition to the country produce sold here to retailers and consumers, there are several produce houses supplied from the wholesale market down town.

There is an extensive and very busy retail market, known as the Union Square Market, occupying a square at Broadway and Lucas Avenue, in close proximity to the wholesale market, and there are 12 municipal curb markets primarily for country produce opened in various parts of the city under supervision of the Director of Streets.

The impression gained from a study of marketing in St. Louis indicates that, while no such condition of congestion exists as in Chicago or Boston, for example, and while the relation between the unloading points and the market are comparatively favorable, yet there are great possibilities for improving the physical equipment for handling produce through concentration in a great terminal market. The present market district is well situated and, lying near the river, easily reached by the railroads, is the most suitable location for a terminal market. With few exceptions the razing of the buildings in this section would entail little loss. The railroad cooperation necessary for a terminal market already exists. It is here on a large scale, apparently indiscriminating, evidently efficient and unquestionably economical, but without the central wholesale terminal market to make a complete wholesale system of economical food distribution.

Section 5. Memphis Wholesale Food Marketing Facilities.

Transportation and terminal facilities.—There are eight railroads passing through Memphis, Tenn. The passenger trains of all of these roads run into two stations, the Grand Central and the Union Station, which are located within a block of each other. There are seven freight terminals, two of the roads using one terminal jointly. Six of the freight yards, located south and east of the passenger stations, are within a space of five blocks. The freight terminal of the Rock Island is about one-half mile north and that of the Louisville & Nashville three miles north of the others.

All freight terminals have warehouses at which both incoming and outgoing freight is received and the warehouses and facilities for handling freight are well arranged. The long freight houses have wide platforms on each side. At one side of the building the cars are brought in beside the platform, while on the other trucks and teams are loaded or unloaded.

The Union Railroad, owned by Southern Pacific interests, operates a belt line around the city, but only industrial plants are located on its tracks. Some one of the eight railroads has switches and spur tracks to practically every manufacturer and wholesale house in the city.

The Illinois Central owns and operates a belt line about part of the city and has track connections to Linden Station where eight wholesale grocers and one wholesale produce dealer are located. The cars arriving over any of the railroads are delivered by the Illinois Central at the door of these nine firms, and cars loaded at this grocery terminal are taken out and delivered to the various roads.

Other wholesale produce dealers have rail connections with one or another of the railroads, and carload shipments are brought to or taken from their doors. All less-than-carload shipments received or shipped out must, however, be handled at the various freight terminals. If speedy delivery of carloads of fruit is desired, they are hauled from the freight yards in preference to waiting for transfer to the spur track of the dealer.

Notwithstanding the track facilities of the dealers, the hauling to and from the freight yards is a considerable item of expense. One produce dealer estimates an expense of \$3,500 annually for hauling less-than-carload shipments from the terminal to his store and \$15,000 for hauling goods for outgoing shipments to his customers in surrounding territory. It is estimated that this expense for all fruit, vegetable, and produce dealers in Memphis, not including that for the five big meat packers, amounts to not less than \$250,000 annually.

No food products reach Memphis by boat on the Mississippi River. The railroads seem to have eliminated the boat lines entirely from this trade.

The wholesale-market district.—The old wholesale-produce district of Memphis was for years on Front Street, running from Washington Avenue southward for about a dozen blocks. In the past few years, however, the large wholesale dealers in vegetables and fruits have gradually moved south. Those who buy mostly carload lots have all established their business on South Front Street or cross streets near there, where railroad switches are run to their houses. Only a very few still remain away from the railroad.

The wholesalers and jobbers in poultry and eggs still hold to their old locations on North and South Front Streets, but most of them are small dealers who buy their supplies from local producers, receive them for sale on commission, or buy from the car-lot wholesaler, who delivers the goods to them.

The wholesale grocers are located on South Main Street within a few blocks of the freight yards and on Front Street south to Linden Station and vicinity. All wholesale grocers have easy access to terminal freight facilities.

A few years ago eight wholesale grocers and one wholesale-produce dealer organized a corporation which built the Linden Station. This was erected especially to suit their needs, and each firm has ample space for its business. Linden Station is a one-story building along the railroad track, each of the nine firms having warehouse and platform space which is rented from the corporation. The Illinois Central tracks run to the building and all carload freight coming to any one of these firms is switched to the door and is there unloaded into the storerooms without loss of time or labor. Shipments of less than carloads must, however, be hauled to and from the various freight terminals.

Cold-storage facilities.—The only public cold storage is the plant of the Memphis Cold Storage Co. Some dealers state that this large plant has ample space to accommodate all foods stored in Memphis, but others complain that space can not always be obtained. Swift & Co. often uses the public plant for storing eggs until they are shipped out. Armour & Co. has its own plant for the storage of meat, poultry, eggs and butter.

On account of the scattering of the produce firms and the freight terminals, it is impossible for the public storage to be conveniently located for all the produce business.

Section 6. Charleston Produce Marketing Facilities.

Transportation and terminal facilities.—Charleston is the principal commercial city in South Carolina, being connected by water and railroad carriers with every important distributing point in the United States. It is an especially important distributing center for points in South Carolina, southern North Carolina and northern Georgia. Vast quantities of vegetables are raised in the

fertile territory tributary to Charleston and thousands of dollars worth of perishable products are shipped from the city every year.

Three important railroads run into Charleston, connecting the city with all northern and southern points. These are the Atlantic Coast Line, the Southern Railroad and the Seaboard Air Line. The first two jointly own and operate a terminal road, the Charleston Terminal Railway, which connects with the tracks of the three roads entering the city. This belt line runs through the wholesale district a few blocks from the produce houses on Market Street.

Only two produce concerns are located on the line of connecting railway in the regular wholesale district. All produce consigned to other dealers must be handled from the various railroad terminals, over a mile away, and much dissatisfaction is expressed by produce dealers in regard to the unsatisfactory service rendered by the railroads at these terminals.

Large shipments of produce are made to Charleston by boat from New York, Norfolk, and Baltimore on the north, and from Florida points on the south. Since the produce houses are at a considerable distance from the docks all such produce has to bear the expense and waste of cartage. None of the docks is equipped with facilities to care for produce.

The wholesale produce market.—The wholesale produce market is not a segregated district in Charleston; the six or seven wholesale concerns are scattered over several blocks. The historic City Market Building, originally constructed over a century ago, has long been abandoned. The buildings still remain, extending a distance of three blocks on Market Street, but they are not occupied and are rapidly falling into decay. Along this thoroughfare and on a street connecting with Market Street, upon which is located the wholesale district of the city, the various produce jobbers have their places of business.

The buildings occupied by the produce dealers were not originally constructed for this business and have few modern conveniences or appliances. Only two of the produce houses possess any cold storage facilities whatever and in each case the space is insufficient for their individual needs. Two of the produce houses are on the line of the connecting belt line, but all produce to the others must be hauled a distance of over a mile.

Because of the crude and insanitary market conditions, with the absolute lack of cold storage, there is necessarily an unusual amount of waste in perishable foods in Charleston. The various wholesale produce dealers approve the idea of establishing a central terminal market on the ground that such an enterprise would eliminate a large amount of waste and materially reduce their present cost of doing business.

Cold storage facilities.—Charleston is absolutely lacking in public cold storage facilities. Two fruit companies have limited cold storage space for themselves but in each case the capacity is not sufficient for their own needs. Each of the five big meat packers maintains a branch house in the city and each of these is equipped with cold storage facilities. On account of the general lack of cold storage much of the local business in eggs, poultry, and dairy products has passed into the hands of the meat packers.

Section 7. Wholesale Food Marketing Facilities at New Orleans.

Transportation and terminal facilities.—Nine railroads enter New Orleans, viz., Illinois Central, Louisville & Nashville, Southern, Southern Pacific, Texas & Pacific, Gulf Coast Lines, Louisiana Railway & Navigation Co., New Orleans Great Northern, and the Yazoo & Mississippi Valley. These roads have their freight yards in different sections of the city. Four of these roads have freight stations and sheds for unloading and unpacking fruits and vegetables located within convenient distance from the wholesale produce and fruit sec-

tion of the city. The Texas & Pacific sheds are two blocks south from Poydras and Front Streets, the Missouri Pacific three blocks and the Louisville & Nashville about four blocks from the same point. The Illinois Central has recently erected new sheds and unloading facilities for fruits and produce at Saratoga and Poydras Streets, about 15 blocks west of the wholesale produce section. The other railroads do not have sheds for unloading, and only rarely are any perishable foods shipped over these lines into New Orleans.

It is the custom of car-lot receivers of fruits and vegetables to have the cars put on the sidetracks at the freight station of one of the four railroads having sheds. Then they unload the car, sort out the poor goods and repack for sale to the jobbing and retail trade or for reshipment. It is also the custom of these dealers to open up cars of fruit and vegetables arriving in refrigerator cars and sell the goods direct from the cars in jobbing lots. The cars are thus used for refrigeration until emptied which sometimes necessitates holding the cars for several days. Only two receivers have storage and refrigeration facilities and these only for handling limited quantities, while other dealers have no refrigeration at their stores, therefore this practice has become quite general.

The Public Belt Railroad, owned and operated by the City of New Orleans, has tracks in various sections of the city and when completed will connect all railroads for the transfer of cars. It has a track through the wholesale produce district and car lots could be brought almost to the doors of most of the receivers. But on account of lack of space, and some loss of time in switching to the belt line, the dealers prefer to sell at the freight yards and to haul from there any produce brought to the stores. There is another belt line, the New Orleans Terminal Co., operated by the Southern Pacific interests, but this does not come into the produce district.

The wholesale food district.—The wholesale fruit and produce market district of New Orleans is Poydras Street, beginning at Front Street just across the Public Belt tracks from the Mississippi River and running west about five blocks to Magazine Street. With a very few exceptions all the wholesale dealers, both large and small, are in this section or within a block of it on a cross street. There are some dealers at the French Market, two miles north of this district, but they are not receivers and buy their supplies from the Poydras Street dealers.

The wholesale grocers are for the most part located adjacent to and within a few blocks south and west of the produce district, where they have easy access to railroad and belt line facilities.

The branch houses of Swift, Armour, Wilson, and Morris are all located close to the wholesale district, and each has the advantage of a railroad switch.

There are 8 car-lot receivers of fruit and vegetables and about 40 wholesalers or jobbers who are supplied principally by these car-lot dealers. Approximately 6,000 carloads, with a value of \$5,000,000 to \$6,000,000, are received annually for distribution to the trade in the city and surrounding territory. Local growers also bring in a considerable quantity of vegetables and some fruits which are sold on the local market, but no reliable estimate of the amount or value can be made. However, the surplus shipped out of New Orleans to northern markets during 1917 is estimated to be 2,000 carloads. There are also several dealers in poultry and eggs, and 22 wholesale grocery houses in the city.

There are three public cold-storage warehouses in the city. The New Orleans Cold Storage & Warehouse Co., owned and operated by local business men, has a large and well equipped plant. The Armour Cold Storage and the

Pelican Cold Storage are small plants. There is ample space in these three plants for the usual requirements of New Orleans dealers, but during the war the space was entirely filled on account of governmental reservation of space.

The location of these storage plants is such that goods must be trucked to and from them.

The sentiment among the wholesale fruit and produce dealers seems to be practically unanimous in favoring the establishment of a Government-controlled terminal wholesale market which would centralize the business and provide ample railroad and terminal facilities as well as give at the terminal sufficient warehouse and storage space for New Orleans perishable food business. The dealers assert that this would be a great improvement over the present method of distribution, preventing waste in handling and carting and saving the cost of much man power and expense of cartage.

Section 8. The Los Angeles Wholesale Terminal Market.

Two large railroad systems enter Los Angeles, the Southern Pacific and the Atchison, Topeka & Santa Fe. The Pacific Electric Railway, an inter-urban freight and passenger railroad, which covers an extensive territory to the east and south of Los Angeles and reaches some points to the north, is the only line entering the terminal market. It owns all the market tracks and it switches all cars coming over other roads destined for this point. Except therefore, for such local freight as may arrive over this small road, all produce delivered at the terminal market must pay a switching charge.

The Southern Pacific Railroad owns all the stock of the Pacific Electric Railway, which in turn solely controls the Pacific Electric Land Co. The Pacific Electric Land Co. owns \$2,227,500 in par value of the stock of the Los Angeles Union Terminal Co. and \$1,340,000 par value of the bonds of this company.

The Los Angeles Union Terminal Co. has planned, and has already partially constructed, a wholesale terminal market, which, as indicated by the chain of ownership, is purely a railroad enterprise. The terminal market is an elaborate and ambitious scheme to provide the city with the complete physical equipment of a wholesale market as an investment which will pay a profit from rentals. The site faces on Central Avenue and embraces a large block extending between Seventh and Eighth Streets to the railroad tracks and yards on Alameda Street. A long two-story building occupies the Central Avenue front, the ground floor being intended for the smaller dealers and the second floor for offices. In the rear of this building is the market yard, about 175 feet wide and nearly 1,200 feet long, where farmers may drive in and unload their produce.

The proposed plan shows two buildings on the opposite side of the yard, 80 feet wide, abutting on Seventh and Eighth Streets, with a 50-foot passage between them. In the rear of these buildings and at a distance from them of 68 feet, are designed two structures similarly arranged, each 100 feet wide, and back of them again, at a distance of 60 feet, are two more buildings of similar dimensions, making three pairs of buildings in parallel arrangement on the farther side of the market yard.

The first pair and one building of the last pair have been finished and are now in use. They are substantially constructed of steel and cement and are well adapted to the purposes for which they are intended. The last building mentioned is six stories high and is partially occupied as a cold-storage warehouse. The war delayed the full execution of the plans, but the market already has most of the physical features of a modern wholesale terminal market, except that it has direct connections with only one railroad system.

A double line of track runs back of the first pair of buildings and a single track in front of the second pair. These tracks are only for carload shipments

and less-than-carload shipments must still be hauled to and from the freight terminals, considerable distance away. The original plans contemplated facilities for the less-than-carload business, but these were abandoned.

This terminal market is devoted principally to the sale of fresh fruits and vegetables. Some of the larger concerns also handle butter, eggs, cheese, and some grocery specialties. There are no wholesale grocers or dealers in fresh meats or in poultry in this market.

The Walnut Growers' Association has quarters here in which is included their by-product plant. Brokers occupy the offices on the second floor of the Central Avenue buildings. On the opposite side of the market yard is a basket factory, located on the second floor of one of the larger buildings, where boxes and crates used in the market trade are manufactured. The Western Union and Postal Telegraph companies have offices in these buildings, and there are restaurants for both whites and orientals. In one wing of the front building is a hotel for farmers called the Inside Inn. Here also is located the Produce Exchange of Los Angeles. Dry storage will be provided in the buildings to be erected hereafter.

A number of produce dealers continue to do business with satisfactory results outside of the Terminal Market, using the switching facilities of the regular terminals for their car-lot business. For less than carloads these dealers are as well situated as though in the market, since there are no special conveniences for less-than-carload business and therefore no particular advantages.

If this were a central terminal market under control of the Federal or State Government, or if it were a municipal market promoted by the city, or if it were a cooperative undertaking devoted to the interests of a large body of participating members, there would be incentive to gather here all the activities of exchange and to eliminate all unnecessary processes to the end that producers might receive the highest prices for commodities, and consumers satisfy their needs at lowest costs. As the facilities were perfected and multiplied, all the benefits of a successful enterprise would accrue to the institution, and a constantly increasing rental value would attach to the location. These increased values would be returned to the community whose wants and whose cooperative industry and enterprise had created them, either directly by constant or diminishing rents or indirectly by devoting the increased rentals to still further improvements or to other community purposes.

But the Terminal Market as it stands is simply a land improvement speculation and a monopoly controlled by one railroad. The income is derived from rentals and charges for such services as power and refrigeration. To such extent as the facilities and services are better than those elsewhere, to that extent the rent may always be raised, so that the dealers can receive little benefit from any economic saving and can not therefore pass on to the consumer any benefit of reduced cost. If the full plans are carried out and the complete market attracts all the produce dealers, there will exist one of the most completely equipped terminal markets in the world, but it will be a monopoly with only the potential competition furnished by the possibility of the establishment of a rival market in case the charges become greater than the traffic can bear. Its tendency also will always be to give a monopoly of the traffic in and out of the market to the Southern Pacific and the Pacific Electric Railway.

Except for the monopoly character of its ownership, its direct track connection with only one railroad and its lack of facilities for handling less-than-carload shipments, the terminal market of Los Angeles is most satisfactory.

EXHIBIT III.

THE WHOLESALE MARKETING OF PERISHABLE FOODS IN FOREIGN COUNTRIES.

Section 1.—General Features.

Certain phases of the system of wholesale marketing of perishable foods in foreign countries merit attention not only because they represent the result of long experience, but also by reason of the fact that they indicate new lines of trade development, advanced methods of organization, and significant results of Government control, as well as other noteworthy features. The marked success of the Halles Centrales of Paris has caused numerous other large cities of Europe to follow the Paris plan of centralizing the wholesale trade in food-stuffs in a central market hall under municipal control. There is quite general agreement, wherever this plan has been adopted, that it makes feasible a centralized regulation of supply and demand, that it reduces expenses, and that it permits better protection of market goods against injury and waste. All three factors make feasible a better control of prices by the Government authorities. The fact was conclusively shown during the war when the existing organized wholesale market machinery proved a most serviceable instrument for systematic regulation and control of distribution, prices, etc., by the State Food Administrations of France, Germany, Italy, and the other countries.

A pronounced feature of the most advanced types of municipal wholesale markets is the institution of licensed municipal selling agents or auctioneers who are subject to strict regulations, and are not allowed to buy or sell on their own account. The efficient services rendered to their principals and the stabilizing influence of their activities upon the market have won for them well-nigh universal confidence. In the wholesale markets of Paris, Berlin, and elsewhere they are looked upon as a potent factor for stimulating competition and as a safeguard against speculative and unfair competitive practices of unscrupulous middlemen.

A growing tendency is noticeable in the leading countries of Europe toward cooperation among producers of perishable foods for the purpose of marketing their products directly without the intervention of middlemen. Pioneer organizations of this kind in Denmark have been rapidly duplicated in other countries. Certain trade-marked brands of fruits, vegetables, dairy products, etc., are now being marketed directly by cooperative producers' associations which have established sales agencies of their own in foreign countries. Organized efforts of this kind have resulted in higher standards of quality, a more steady flow of supplies and greatly reduced cost of transportation and distribution. In certain instances wholesale market prices have been lower, and, generally speaking, they have not been subject to such frequent and sharp fluctuations as occurred under conditions less organized.

The emergency legislation and administrative decrees of food controllers issued during the war relative to the wholesale trade in perishable foods were framed substantially along the same lines in all the countries where State control or regulation was established. The outstanding features common to most of these regulations were the following: Compulsory licensing of wholesalers,

fixed maximum prices and margins of profit, prohibition of the handling of the same goods by more than two wholesale dealers, and establishment of grades of quality and standards of weight and measure. Some of the temporary emergency measures of control have proved so efficacious that their continuance in peace time is being strongly advocated.

Section 2.—Wholesale Marketing in France.

The wholesale market of Paris.—The Halles Centrales of Paris is the leading wholesale market for perishable foods in France. Located in the traffic center of Paris, the Halles Centrales comprise 10 market pavilions, covering a total of 35,000 square meters. Six of the pavilions are given over exclusively to wholesale trade; in the remaining four wholesale and retail business, principally in meat and fish, is carried on. The Halles Centrales is the chief gateway for food products not only for Paris, but also for markets in Normandy and adjoining departments. About 900 communes near Paris rely upon the Halles Centrales for their supply of fruits and vegetables.¹ Large quantities of perishable foods have been reshipped from there also to England, Belgium, Germany, Switzerland, and Russia. This latter trade is handled chiefly by wholesale dealers who are located in the neighborhood of the Halles Centrales.

The present market organization is subject to a special law of June 11, 1896, which was supplemented by further administrative regulations on April 23, 1897, and on October 8, 1907. In the Halles Centrales of Paris wholesale trading takes place daily from 4 to 11 o'clock in the morning, except on Mondays, during the period from September 1 to April 30. Sales are effected through official salesmen, known as "mandataires," of whom there are about 100. In the market halls of other cities in France, for instance in Lille and Roubaix, these licensed salesmen are called "facteurs."

Activities of the mandataires and regulations imposed upon them.—The only remuneration received by the mandataires for their services is a commission fee agreed upon between them and the shippers. The law of June 11, 1896, provides that a mandataire shall furnish bond amounting to not less than 5,000 francs; that he shall be registered by the Tribunal de Commerce after an investigation and upon the advice of the prefecture of police; that mandataires shall not acquire on their own account goods or produce for the purpose of selling them themselves or through third parties, and that they shall not possess any warehouse or salesrooms in Paris, in the Provinces, or in foreign countries.² These provisions were made to cover agents of mandataires by special regulations in 1897 and 1907.

The mandataires sell either by auction or outright (*à l'amiable*), according to their instructions. During 1908, 26 per cent of the sales were made at auction and 70 per cent outright, while in 1909, 17 per cent were at auction and 83 per cent outright.

All goods sold must be assembled in every case within the pavilion and annexes of the Halles.

The activities of the mandataires are subject to a minute system of regulations. They are responsible over against their shippers, and unless otherwise agreed upon have to advise the latter on the day of the sale relative to the outcome of the same. They are not permitted to shift any credits which they may have given to purchasers, to shippers, nor to use such credit obligations as a pretext to withhold payment due shippers. In case of failure to comply

¹ R. Facque, "Les Halles et Marchés Alimentaires de Paris," Paris, 1911, p. 146.

² E. Pöher, "Le Commerce des Produits Agricoles," 1912, p. 22 fol.

with their professional duties the mandataires are liable to disciplinary measures, including suspension and prosecution under the Penal Code. They are also responsible for acts of their employees which are in violation of the regulations.

The salesrooms within the different pavilions of the Halles Centrales are apportioned by the prefecture of police among the mandataires in proportion to the volume of their business during the preceding three years. Each shipment, on its arrival at the Halles, must, in order to establish its *provenance*, be accompanied by a bill of lading or a railroad receipt addressed to the mandataire and a customs *declaratur*, which are viséed by agents of the prefecture of police. All sales must be entered in a record book, which, before it may be used, has to be sanctioned and stamped by the prefect of police, the chief inspector of the pavilion, and the special commissioner of markets. Each entry must indicate the date and number of sale, name of shipper, nature of goods, weight of lot or number of pieces, manner and price of sale, and name of purchaser. A copy of each sales record is transmitted to the shipper. In case of a material error having been made in the original entry, a separate corrected statement, authorized and viséed by the inspector of the pavilion within 24 hours, shall be sent to the shipper. Upon all goods sold the mandataire indicates the amount of the tariff charges, railroad freight, custom charge, portorage, etc., and of his own commission fee. Furthermore, the mandataire must keep a detailed record giving the total sales made from day to day on each shipper's account. A shipper may transmit his receipt to the prefecture of police for purposes of verification. Further, each mandataire has to make a daily report of his sales to the chief inspector of the pavilion, which serves as a means of control of his operations and for statistical purposes.

Establishment of market prices.—Current market prices are established in each pavilion by a commission consisting of the chief inspector and three mandataires designated by their colleagues. The commission establishes a maximum, a minimum, and an average price. Each day, after close of the sales, the prefect of police posts a bulletin giving the current market prices. The mandataires make themselves liable to disciplinary measures in case they quote other than the official prices to shippers.

Volume of business handled by the mandataires.—Although considerable quantities of perishable foods are handled by producers, commission men, brokers, etc., outside of the Halles Centrales, the bulk of the food supplies for Paris is shipped to the mandataires in the Halles. Since 1900 an association comprising the Central Syndicate of French Shippers of Early Vegetables, the Syndicate of Grape Growers of Thomery, and the Syndicate of Truck Gardeners of the Vicinity of Paris, operates a sales agency in the Halles. The following table indicates the quantities of food products in tons sold at wholesale in the Halles Centrales during the year 1909:¹

	Tons.
Meats	54, 715
Tripe	11, 128
Poultry and game	23, 766
Fruits and vegetables	55, 812
Fish, clams, etc.	50, 885
Butter	15, 082
Eggs	18, 150
Cheese	14, 942
Total	244, 480

¹ E. Poher, l. c., p. 323.

The total volume handled in the Halles has increased from year to year; the total quantity of vegetables and fruits alone increased from 17,732 tons in 1900 to 55,812 tons in 1909. Ninety-five per cent of the foodstuffs sold in the Halles comes from France (including Algiers); the remainder is shipped from foreign countries, especially Belgium, Spain, Italy, and the Canary Isles.

Charges of the municipal market for handling products.—In addition to the commission fees allowed the mandataire, as agreed upon between him and the shipper, goods sold at the Halles Centrales are subject to a number of extra charges for unloading, guarding, counting, weighing, etc., the *droit d'abri* (shelter) and the *octroi* (city toll). The Halles Centrales has no direct railway connection, and shipments have to be transported by means of trucks from and to the various freight terminals of Paris. The various cost items due to delivery charges and tax fees collected by the municipal authorities materially increase the wholesale marketing costs of perishable foods. This state of affairs is due chiefly to the fact that the heavily bonded city looks upon the municipal markets as a safe and handy source of revenue.¹

Section 3.—Wholesale Marketing in Great Britain.

London wholesale markets.—The London markets are preeminently wholesale markets, and serve as great food-distributing centers not only for the metropolis, but also for many of the midland towns. They are operated either under a royal charter or by parliamentary authority. The principal ones are Covent Garden (vegetables, fruits, flowers), Spitalfields (vegetables, fruits), Smithfield (vegetables, meat, poultry, fish), the Borough Market (tomatoes, onions, potatoes), and the Billingsgate fish market. Covent Garden is owned by the Duke of Bedford, the Smithfield and Billingsgate Markets are administered by the corporation of the city of London, and Borough Market is the property of St. Saviour's Church. In addition to these markets the great Northern Railway operates a terminal market where, on an average, 75,000 tons of potatoes, turnips, celery, and cabbage are handled annually. Also several steamship lines have established wholesale markets at their docks.

The corporation of London has spent about \$20,000,000 on its markets during the last half century.²

The Smithfield Market.—The Smithfield Market, which covers approximately 8 acres, is the leading market operated by the city corporation. It is the center of the city's wholesale meat trade (see below).

Covent Garden.—Covent Garden, London's principal wholesale vegetable and fruit market, is under private ownership. It covers a little over 5 acres of ground. While considerable retail business is carried on, the bulk of the trade is wholesale. Considerable quantities of produce are bought in Covent Garden and taken from there to the Borough and other local markets to be resold.

Domestic products are sold up to 9 o'clock a. m.; after that time the sale of foreign products takes place. Purchasers comprise chiefly wholesalers, retailers, and buyers for hotels and restaurants, many of whom reship their purchases to inland points.

Municipal control.—With one or two exceptions, the system of officially licensed and bonded auctioneers has not been introduced in the London markets. However, prompt enforcement of the severe market regulations, including cancellation of stand and other privileges in case of unfair business dealings, serves as a sharp check upon the dealers.

¹ Die Versorgung der grossstädtischen Bevölkerung mit frischem Nahrungsmitteln, unter besonderer Berücksichtigung des Marktwesens der Stadt Berlin. Leipzig, 1911.

² The Corporation Markets, 1912.

Charges incurred in handling goods.—The lack of direct railway and water connections involves much loss of time and extra expense for cartage and handling of produce shipments to and from railway freight stations. Rent for the shops and buildings varies with the location or size, and other circumstances. The highest rent paid for a shop with offices and cellars is \$40.88 per week. The lowest rent paid for a shop is \$2.92 per week. Water and gas taxes, as well as repairs, are paid by the market management. All goods that are picked are liable to a toll which varies with the commodity.¹

Section 4.—Wholesale Marketing in Germany.

In Germany 17 out of 47 cities, with a population of more than 100,000, have a total of 40 market halls, in most of which certain hours of the day are restricted to the wholesale trade. In most of the other cities the market is held in an open square. Only two market halls, one in Berlin (I.) and the other in Munich, are used exclusively for wholesale marketing. The central market in Hamburg, erected in 1912 at a cost of 4,750,000 marks, is unique. It is constructed in the form of a large open square, only partly under roof, but provided with spacious cellars or casements covering 11,500 square meters for storage purposes.²

The system developed in Berlin comprises a number of features, largely due to the fact that in it have been embodied many of the methods tested out in other cities.³ To this in large measure is due the high degree of success achieved in provisioning that metropolis.

Municipal marketing in Berlin.—The wholesale food trade of Greater Berlin is centralized in the municipal terminal market halls I and Ia, which adjoin each other in the center of the city and have splendid railway connections. Repeated efforts by the city authorities to establish branch wholesale markets in connection with municipal retail market halls in other parts of Berlin proved a failure on account of the centralizing power of the two central wholesale markets.

Size of the markets.—In market hall I several wholesale firms operate retail stands, while market Ia is given over exclusively to wholesale trade. The space available for wholesalers' stands in market I amounts to 5,384 square meters and in market Ia to 5,600 square meters. In market Ia the revenues derived from renting stands increased from 273,207 marks in 1893 to 600,656 marks in 1905. Because of this rapidly increasing volume of business handled daily, the well-equipped halls, with cold-storage facilities in the basement, tanks with flowing water for fish dealers, suitable quarters for sanitary inspection, and numerous mechanical appliances have become too small. In order to remedy this condition, the municipal authorities in 1909 decided to remove the wholesale market from its present location to the outskirts of the city adjoining the municipal slaughterhouse, where new market halls are to be built at an expense of 25,000,000 marks.⁴

Organization of the market.—The administration of the market is vested in a "Municipal Market Hall Deputation," consisting of 5 members of the magistracy and 10 city councilmen; a "market hall director" is in actual charge and has under him a staff of trained officials. The employees have an organi-

¹ Municipal Markets and Slaughterhouses in Europe. (Special Consular Reports, Vol. XIII, Pt. III, Washington, 1910, p. 75.)

² R. Schachner, "Märkte und Markthallen für Lebensmittel," II, p. 116. Berlin und Leipzig, 1914.

³ Bericht II. eine Informationsreise zur Besichtigung von Markthallen anderer Grossstädte. Herausgegeben vom Magistrat d. Stadt Berlin. Berlin, 1906.

⁴ H. Krüger, l. c., p. 27.

zation of their own and work in rotating shifts.¹ The number of employees is much smaller than that of the Halles Centrales of Paris.

Volume of business handled.—The produce shipments to the market hall by rail amounted to approximately 120,000 tons in 1909, while the shipments leaving the market by rail amounted to but 4,000 tons in 1909. Reduced freight rates, rapid forwarding of shipments, and other facilities have greatly improved the efficiency of the markets' service. Quantities of produce are brought to the markets by wagons (about 250 loads per day) and motor trucks from the truck farms in the vicinity of Berlin.² In 1911 about 180 car shipments were received daily at the railroad market terminal.

The plans for the new wholesale market provide, to begin with, for 400 car shipments of produce per day.³ All daily incoming shipments are disposed of on the day of arrival, left-overs being sold to hucksters, buyers for hotels and restaurants, or placed in cold storage.

Municipal auctioneers.—The sales in the market halls are made either outright or at auction. Generally speaking, fish, game, poultry, fruit, and vegetables are sold at auction, while butter, cheese, eggs, and potatoes are sold outright. In the wholesale market halls of Berlin the institution of municipal salesmen has proved a success, although their number has been reduced in the course of years from 15 to 6. This success has been attained in spite of the opposition of wholesale dealers.

There is one municipal salesman also in each of the following cities: Leipzig, Dresden, Cologne, Munich, and Breslau. These officials receive all shipments offered for sale and auction them off to the highest bidder. For this service they receive a commission which varies from 5 to 10 per cent,⁴ according to an agreement between the auctioneer and the vendor. They are compelled to report the amount of this commission to the market administration. The latter, among other things, fixes the minimum quantities which may be sold.

The gross business transacted by each auctioneer amounts to several million marks per year.

Regulations governing the auctioneers.—The official activities of the municipal auctioneers are governed by special regulations. The Berlin regulations, which are typical for German wholesale municipal markets, provide substantially as follows:⁵ (a) The municipal auctioneer shall deposit a bond of 20,000 marks with the city treasury; (b) he shall pay rent for the necessary business offices; (c) he shall receive a commission of one-fourth of 1 per cent of the turnover; (d) he shall keep a set of account books and shall furnish truthful information upon request of the administration; (e) he shall immediately accept and inspect, as to their quality, goods shipped for sale; (f) he shall advise the shipper without delay relative to the receipt and inspection of goods; (g) he shall transact sales and settle accounts speedily; (h) he shall not conduct retail sales in his sales rooms; (i) he shall not collect other fees in addition to the commission given by the shipper and shall report his maximum commission fees to the market administration; (j) he shall observe all ordinances and regulations; (k) he shall make an accurate report of prices realized for purposes of the official market report; (l) he shall not issue bulletins which are at variance with the official price

¹ E. Lange, l. c., p. 29.

² *Ibid.*, p. 34.

³ *Idem.*

⁴ H. Krüer, l. c., p. 58.

⁵ H. Silbergleit. "Städtische Betriebe zur Lebensmittelversorgung," in "Schriften d. Vereins für Sozialpolitik," 128. Band, Leipzig, 1908, p. 128.

quotations; (m) only one auction shall take place at a time in each room and timely notice shall be given of the opening time; (n) he shall keep a record of the name and location of vendor, date of receipt, kind and quantity of goods, hour of auction, prices received, name and address of respective purchaser; (o) the highest bidder is to receive immediately a statement giving name of auctioneer, date, number of lot, designation of goods according to kind, quantity, and price; (p) the purchaser shall take over the goods purchased within two hours after close of the auction, except in the case of fish, where delivery shall be made immediately; (q) whenever the auctioneer has reason to believe that prospective purchasers are in agreement to prevent overbidding, he shall terminate the auction.

Market report.—An official market report is compiled jointly by the municipal administration and the market police on the basis of information gathered daily relative to current wholesale prices. It is issued daily.

Leipzig: Volume of business and profits of wholesale dealers.—Illuminating data regarding the volume of business and the profits of wholesale dealers in fruits and vegetables have been compiled by Hübner.¹ These data cover the business of seven wholesale dealers of Leipzig during 1910. They show that the average profit on the total annual sales amounted to 3.37 per cent. The following table illustrates the turnover, gross profits, running expenses, and net profits of these seven Leipzig dealers for the year 1910:

TABLE 2.—Volume of business, expenses, and profits of seven wholesale dealers in fruits and vegetables, Leipzig, 1910.

Dealer.	Annual turnover (marks).	Gross profits.		Running expense.		Rent for stand ¹ (marks).	Net profit.	
		Marks.	Per cent of turnover.	Marks.	Per cent of turnover.		Marks.	Per cent of turnover.
1.....	325,000	22,000	6.77	13,000	4.00	1,500	9,000	2.77
2.....	290,000	19,500	6.41	13,000	4.48	1,500	6,500	2.24
3.....	260,000	19,000	7.31	13,500	5.19	1,500	5,500	2.12
4.....	180,000	15,000	8.33	7,000	3.88	1,500	8,000	4.45
5.....	90,000	9,000	10.00	4,800	5.33	1,500	4,200	4.67
6.....	80,000	7,800	8.66	4,800	5.33	1,500	3,000	3.33
7.....	65,000	6,400	9.84	3,800	5.94	1,500	2,600	4.00

¹ Included in the preceding column, "Running expense."

Section 5.—Danish Cooperative Export Associations.

The cooperative butter, egg, and bacon export societies of Denmark, which have established a world-wide reputation, have served as a pattern for similar enterprises in other parts of the world.

Operations of the Danish cooperative egg-export societies.—The Danish Cooperative Egg Export Society (Dansk Andels Oegexport, or D. A. Oe.) has 540 branches with about 45,000 members. In 1915 the turnover amounted to \$2,130,000. The main office, which markets the products of the society at wholesale, is located at Copenhagen. There are 10 local branches for the collection, sorting, packing, and export of eggs. In several of these branches eggs are preserved, to be sold during the winter, and at five branches poultry is handled. The constitution of the society provides, among other things, that members are not to deliver eggs which are more than seven days old, that eggs must be stamped with the number of the local branch and of the individual members, and that members must agree to pay a fine of \$1.35 if found to have delivered old or bad eggs.

¹ "Die Versorgung Leipzigs mit frischem Gemüse und Obst," Leipzig, 1911.

In 1913, 96 per cent of Denmark's eggs went to Great Britain. As a result of the efficient export organization developed by the Danish cooperative societies, Denmark has replaced France as Great Britain's chief source of supply for over-sea dairy products.¹

Cooperative butter-export associations in Denmark.—There were seven cooperative butter-export associations in Denmark with a total membership of 368 in 1916. One of the largest of these associations, the Danish Dairies' Cooperative Butter Export Association with headquarters at Copenhagen, has branches in six provincial towns and a membership of 190. Membership in the export societies is not confined to cooperative dairy societies, privately owned dairies being also accepted as members. The total turnover of the Danish butter-export associations amounted to \$18,250,000 in 1916. In 1914 one-fifth of that country's export of butter was handled by cooperative export associations, the bulk of the export shipment going to Great Britain.

The dairies bind themselves to sell all the butter they make through the export society.

Prices.—The butter is paid for according to the Copenhagen quotation, modified slightly according to the quality ascertained by weekly testing of sample casts.

The number of middlemen between the Danish producer and the British consumer has been reduced to such a minimum that the retail price of Danish butter in England is said to be but slightly more than what the Danish farmer receives for the same commodity.²

Cooperative bacon-export associations.—The production of bacon in Denmark is very largely an export industry; the greatest part of the shipments, known as "Wiltshire cut" bacon, goes to Great Britain. In 1913 the value of the Danish exports of bacon amounted to approximately one-quarter of the total export of Danish produce. About 80 per cent of the bacon exported comes from cooperative packing houses, of which there are 44, with 141,300 members, in 1917. The total turnover of these packing houses amounted to approximately \$72,000,000 in 1917. Fifteen cooperative factories formed a joint selling agency, the Danish Bacon Co. (Ltd.), in London, which sells at wholesale in the Smithfield district of London.³

Activities of cooperative export societies in Holland.—In Holland the Association of Cooperative Creameries in Linsburg was the first to take up the cooperative export of eggs. The Friesland Export Federation followed in 1903.⁴ These associations have adopted the system prevailing in Denmark.

Section 6.—Import and Export Trade of Perishable Foods.

The import and export trade in perishable foods constitutes a very important factor in the wholesale markets of some of the large European cities. A large part of the supplies of early vegetables and fruits in the wholesale markets of Paris, London, Bremen, Berlin, Geneva, and Vienna comes from Italy, southern France, Algiers, Spain, Holland, and Belgium, while dairy products are shipped in large quantities from Denmark, Holland, Switzerland, and Hungary. The markets in some of these cities provide not only for their own population but serve also as forwarding centers for the cities in their neighborhood and in foreign countries. Certain markets have grown to such an

¹ G. Desbons, "La Cooperative rurale en Denemark," Montpellier, 1916, pp. 60 and 70.

² H. Hertel, "Cooperation in Danish Agriculture," 1918, p. 80.

³ H. Faber, "Cooperation in Danish Agriculture," London, 1918, p. 55 fol.

⁴ J. C. Adams and J. Fant, "Notes on Agricultural Cooperation in the Netherlands," Dublin, 1910, p. 94.

exceptional importance that they have become chief storage and exchange places for special commodities. London, Hamburg, and Paris have developed into important forwarding centers.

Paris as a center through which the trade passes.—Paris is an important gateway for this export trade from the north and south. Much of this produce is handled by commission houses in Paris whose warehouses are located in the streets near the Halles Centrales and who reship it to London, Hull, and Liverpool; to Cologne, Strassburg, and Berlin. At important railroad points on the border, like Petit-Croix, Igney-Avrincourt, and Pagny-sur-Moselle, or at the ports of Boulogne and Dieppe in France, local forwarding houses ("transitaires") make a specialty of handling the custom requirements and of facilitating speedy movement of shipments. Their knowledge of the different customs, tastes, and requirements of consumers in England, Belgium, Germany, Switzerland, etc., and their information as to market conditions and prices in London, Berlin, etc., enable them frequently to direct or divert shipments more advantageously than the original producer or shipper is able to do, for the reason that he is not in as close touch with current foreign market conditions. In some cases these transitaires go so far as to guarantee minimum sale price to the shippers.²

Cooperative associations of producers for exporting in France.—A considerable export trade has been built up by cooperative associations of producers. Several of these have operated export sales syndicates with marked success. In 1909 there were 133 selling syndicates of agricultural cooperative societies in France. In that country also the growers of capers in the two small communities of Cuges and Roquevaire organized a sales syndicate several years ago, which markets its products directly to dealers. A cooperative syndicate of strawberry and pea growers of Plougastel operates his own boats across the channel to Plymouth and auctions off its products there and at Manchester.³

Other cooperative societies.—The "Westland" association of vegetable growers in Holland, the manufacturers of Emmentaler cheese in Bavaria, Hungarian producers of table raisins, the Italian Federation of Agricultural Syndicates (which comprises more than 400 agricultural cooperative societies in Italy), and the Russian Zemstvos are examples of agricultural cooperative societies that have established export organizations through which they market their products in foreign countries directly, without the intervention of outside middlemen. Several of these associations market their products under special trade-marks.

Organization of the world's banana trade.—The wholesale banana trade of the world is organized on a larger scale, perhaps, than any other staple food commodity. The United Fruit Co. and its British affiliation, Elders & Fyffes (Ltd.), of London, is a dominant factor in the banana trade between South and Central American countries and the Canary Islands, on the one hand, and North America and Europe, on the other. Chiefly through this centralized control of the banana trade New Orleans, New York, London, and Hamburg have developed into forwarding centers, from where the various consuming markets in North America and Europe are supplied. The Société Fruitière Coloniale represents the wholesale banana importers of France. A similar combination of banana exporters exists in Brazil. The banana planters and exporters of the Fiji Islands have formed an organization, the Fiji Fruit Co., which controls a large volume of the banana trade between the Fiji Islands and Australia and Canada.

² B. Pöher, l. c., p. 47 fol.

³ Ibid., p. 82.

Section 7.—Wholesale Marketing of Fish.

The large consumption of fish as a popular food in European countries has caused an extensive network of wholesale distributors to grow up, the outstanding feature of which is its centralization at a few large pivotal points in the hands of a comparatively small number of wholesale houses. The Billingsgate Market of London and the municipal fish market of Hamburg-Altona are the leading wholesale distributing markets for salt-water fish in Europe, with Paris and Berlin as important inland centers of distribution. Seagoing vessels make daily deliveries of fish at the wharves of the first two markets.

Some of the large wholesale houses have branch offices in a number of different countries, operate their own fishing boats, or buy their supplies directly at the chief fishing centers like Hull, Boulogne, La Rochelle, Ostende, Geestmünde, etc., and engage in considerable importing and exporting business. In recent years large stock companies, operating fishing fleets of their own, have established retail stores in large cities and have become important factors in the fish trade. The Hochsee-Fischereigesellschaft "Nordsee" of Nordenham, capitalized at 3,000,000 marks, maintains a chain of retail shops throughout Germany.

Wholesale marketing of fish in Great Britain: Billingsgate.—The Billingsgate Market of London is the oldest and best-known wholesale salt and fresh water fish market of the world. This market supplies not only most of the London consumption but large quantities of fish are reshipped from here to all parts of England and to continental markets. It is administered by the city of London and nets an annual profit to the city corporation of about \$40,000. Being located alongside of the Thames, steam vessels can deliver the catches collected by them from the various fishing fleets at sea directly at the Billingsgate Market wharves. Shipments by railway from Grimsby, Hull, and other collecting ports to London are conveyed to the market in railway vans.

Volume of trade handled, and its disposal: In 1913 the total quantity of fish delivered at the Billingsgate Market amounted to 182,749 tons, of which 117,297 tons were land borne and 65,452 water borne. The land-borne fish are sold chiefly by commission men, the water-borne fish are handled by four large fish-carrying companies who dispose of them by auction in the market. The land-borne fish is partly consigned on commission to tenants and partly purchased by the tenants directly, who then sell by auction or directly to retail dealers.¹

The market is held daily, except Sundays, most business being transacted on Mondays and Fridays.

Charges, tolls, etc.: The city of London has thus far spent more than \$2,000,000 in the construction and improvement of Billingsgate Market. It draws revenues in the form of shop rents, which average from \$1,533 to \$2,068 per annum for each shop, and of tolls on vans, carts, rowboats, vessels, and bulk shipments of fish not coming by vehicle or boat. The tolls collected each year average \$26,750.

Official price bulletin: The market superintendent compiles a daily record of current market prices obtained from some of the leading dealers. From this data an official price list is made up and issued daily.

Other important wholesale fish markets in the United Kingdom are at Manchester, Liverpool, Grimsby, and Glasgow.

Wholesale marketing of fish in Germany.—In Germany the wholesale fish trade has expanded considerably in recent years parallel with the increased consumption of fish and the high prices of meat. Two distinct phases of the

¹ Report of the Billingsgate and Leadenhall Markets Committee, Apr. 2, 1914.

trade have developed in course of time—the salt-water fish and the inland fish. The bulk of the wholesale trade in salt-water fish is handled at large daily fish auctions at the large Elbe and Weser ports, Geestemünde, Bremerhaven, Hamburg, and Altona.

Wholesale fish market of Berlin.—Berlin has become the leading wholesale market of the world for live fish and for certain special kinds of fish shipped there from all parts of the world, particularly from Russia and the Scandinavian countries. The wholesale fish business of Berlin centers around the municipal wholesale market hall,¹ which contains water tanks holding 400 hundredweight of live fish.

Activities of the municipal auctioneers and wholesalers.—Most of the sales are transacted either by the municipal auctioneers or a half dozen large wholesale firms. While there has been considerable opposition by the latter to the former, wholesalers frequently find it advantageous to sell large lots, which are on their hands and which would either spoil or have to be stored at an extra expense, through the municipal auctioneers. Experience has shown that the institution of municipal fish-market auctioneers in Berlin acts as a safety valve in absorbing surplus supplies and in facilitating rapid distribution.²

The Hamburg-Altona market.—The chief wholesale market for salt-water fish in Germany is at Hamburg-Altona.³ Fresh sea fish and salted herrings are handled chiefly; about one-quarter of the entire supply arriving in fishing cutters or by steam trawlers directly alongside the market-halls, the remaining three-quarters being imported by rail from Denmark and Sweden and by ship from England, Scotland, and Norway. The wholesale trade is centralized at the municipal fish halls of Hamburg and Altona, which are adjacent to each other.

Activities of the auctioneers: All sales take place at the market halls exclusively by auction, except where previous disposition has been made. In the Hamburg market there are two auctioneers appointed by the Hamburg State Senate. Altona has one. The latter is a regular salaried government official, the two Hamburg auctioneers being independent merchants licensed by the government to conduct public auctions. They are not allowed to carry on other business after assuming the office of auctioneer. Their revenue is 4 per cent on fish arriving by German fishing vessels and 5 per cent on fish arriving by foreign fishing vessels or imported by sea or by rail. Of this amount they pay to the Hamburg government one-half of 1 per cent of the returns of sales of fish arriving by German fishing vessels and 1 per cent of returns of sales of all other fish.

Upon arrival at the market halls the fish are reassorted in open cases, each containing 50 kilos (110 pounds), and exhibited for sale. The majority of the purchasers at the auctions are local wholesalers. They have either branch houses in large inland cities or maintain regular relations with retail dealers at Hamburg and elsewhere. Offers and orders are generally transmitted by wire.

At Schlutup, near Lübeck, are located the offices of a joint purchasing association named "Fischhalle." It comprises 20 firms engaged in the wholesale marketing of herring. The association operates branch offices at Hull, Lowestoft, and Grimsby, in Great Britain, has a buyer stationed at Gothenburg in Sweden, and has two branch offices in Norway at Kristiansund and Haugesund.

¹ E. Gossner, "Über die Entwicklung und heutige Organisation des Berliner Fischmarktes," Leipzig, 1901, p. 22, fol.

² E. Gossner, l. c., p. 85, fol.

³ E. von Dunker, "Die kommunalen Einrichtungen Deutschlands für Fischversorgung," Leipzig, 1908, p. 173, fol.

The total imports of the association during the season 1913-14 amounted to 88,938 casks of 100 kilos each.

Special facilities are furnished by German railroads for the transportation of fresh fish by express service at ordinary freight rates.

Wholesale marketing of fish in Australia.—In Australia efforts have been made to improve the quality and reduce the price of the fish supply through State competition.¹ The State Fish Supply of Sydney, established in 1915, operates three fishing trawlers and five retail fish shops in the city of Sydney. The New South Wales Government Fish Department has also established a number of receiving depots along the coast, where fishermen can market their fish independently of dealers who are generally believed to have formed a combine. The Western Australian Labour Government commenced obtaining fish in November, 1914. In addition to operating retail fish stalls at Perth and Fremantle, the government also forwards supplies of fish to other towns in western Australia for distribution.

The government also periodically holds auction sales of fish in Sydney and the principal provincial centers.

It appears that, although from a financial point of view these State enterprises have not been successful, the market supply of fish has been greatly improved as a result of State competition, and prices have been substantially lowered.

Section 8.—Wholesale Marketing of Meat.

During the past 15 or 20 years the problem of supplying meat in sufficient quantities and at reasonable prices has assumed a degree of vital importance in the leading countries of Europe. In the large industrial centers in particular the level of meat prices has risen so rapidly that in many cases municipal and State authorities were obliged to inaugurate remedial measures in the public interest.

In Great Britain oversea shipments of chilled meat from Australia and South America satisfied, in a large measure, the demand for increased meat supplies. Experiments along similar lines proved a failure in France, Germany, Austria, and elsewhere. In the latter countries efforts to improve the meat situation directed themselves more to reorganizing the wholesale marketing machinery of the domestic meat trade. Some of the most significant reforms include municipal slaughterhouses, centralization of the wholesale meat trade in municipal markets, cattle-credit banks, municipal auctioneers, and long-time contracts between municipalities and cooperative cattle-producers' associations for meat supplies.

Municipal abattoirs in Germany.—Municipal cattle yards and slaughterhouses have been established in many European cities.

There are approximately 950 public abattoirs in Germany.² In Prussia a law of March 18, 1868, gives cities having municipal slaughterhouses the right to make the use of the municipal slaughterhouse compulsory for all butchers.³ The capital invested in 367 municipal abattoirs in Prussia, in 1902, amounted to approximately 320,000,000 marks. In that year the total income of these 367 abattoirs amounted to 18,596,000 marks, while the expenditures, excluding interest, totaled 10,556,000 marks.

During 1907 a total surplus, amounting to 2,554,541 marks, was realized from municipal abattoirs in 54 German cities. In 16 cities there was a total

¹ H. L. Wilkinson, "State Regulation of Prices in Australia," Melbourne, 1917, pp. 155, fol. and 181, fol.

² Fleischaquete 1912-13, Berlin, 1913, Anlageband II., p. 334.

³ H. Silbergleit, "Ständische Betriebe zur Lebensmittelvesorgung, p. 152.

deficit of 408,639 marks. In Berlin the total surplus for 1911 amounted to 1,440,894 marks.

Municipal abattoir of Berlin.—The Berlin institution, a model institution, was built in 1881 at a cost of over \$4,250,000, and covers an area of nearly 115 acres, including the cattle market. The excellent railway facilities permit four cattle trains of 50 cars each to be unloaded or loaded simultaneously.

All animals intended for food purposes in the city of Berlin must, by German law and municipal and police regulations, be slaughtered in the municipal abattoir under the strictest police and veterinary surveillance. In order to link up this abattoir with the wholesale market of Berlin plans have been perfected by the city authorities to locate the new wholesale market on ground adjoining the municipal slaughterhouse, so that the cattle and wholesale meat supply of Berlin will be centralized at one and the same point.

Vienna.—The city of Vienna has established one of the most elaborate systems of municipal control for its meat supply, and the results of the experiments made in this connection merit special attention. A decree of the Ministries of the Interior, Commerce, and Agriculture of August 1, 1902, provided¹ that the Vienna central cattle market at St. Marx, shall be the only market for the sale of cattle, etc., for slaughter for the total territory of Vienna and vicinity. The market area covers a total of 310,585 square meters and comprises in addition to the necessary buildings, etc., for handling live-stock shipments the St. Marx abattoir. Here are also located the "Municipal Receiving Office for Cattle and Meat" (*Städtische Übernahmestelle für Vieh und Fleisch*) and the "Vienna Cattle and Meatmarket Bank" (*Wiener Vieh und Fleischmarktkasse*).

Central cattle market—St. Marx.—The Vienna Central Cattle Market, St. Marx, constitutes the chief gateway for the meat supply of Vienna as well as for all of the neighboring countries. The average annual value of the cattle and meat handled there has amounted to 200,000,000 kroners.² The market has excellent railway connections.

It is under the direction of Section IX of the municipal magistracy of Vienna. The market regulations provide that disposal of live cattle, sheep, and swine shall be reported to the market management not later than 2 o'clock of the afternoon of the day preceding the market day, and that other meat products shall be reported not later than one hour prior to the sale. Through this arrangement the prospective market conditions can be gauged in a general way in advance, and the market authorities are in a position to exercise a certain stabilizing influence upon the market by regulating shipments en route.³

Sales take place on certain market days, cattle, for example, on three days of each week from 9 a. m. to 3 p. m. No sales are allowed outside of the time fixed by the market regulations. Advance sales and reselling are prohibited. The weight, price, and *provenance* of the shipments, as well as the names of the seller and the purchaser, must be entered in the official weight register. A market report is issued by the market office on the basis of the official weight register.

Cattle and Meatmarket Bank.—In 1884 the Vienna Cattle and Meatmarket Bank was established at the St. Marx market. It is a branch of the K. K. Priv. Depositenbank and operates under an agreement with the state and municipal governments. It serves as a clearing house, and all payments for market transactions and credits given for the purchases of cattle, etc., must be concluded

¹ Karl Schwarz, "Der Wiener Zentralviehmarkt St. Marx." (In *Schriften des Vereins für Socialpolitik*, 130. Band, 1. Teil, Leipzig, 1909, p. 33.)

² Karl Schwarz, l. c., p. 42.

³ Ibid., p. 33.

exclusively through the Cattle and Meatmarket Bank. The bank is allowed a fixed charge varying from three-tenths to five-tenths of 1 per cent of the gross profits on each sale.

Method of transacting business: Trading takes place by means of checks which are collected and cashed by the bank. Checks must be cashed by the bank on the day of the sale, so that shippers are not affected by the credit condition of the purchasers. The bank also grants personal credits against security to retail meat dealers for from two to six weeks at a rate of interest not to exceed three-fourths of 1 per cent above the current rate of the Austro-Hungarian Bank. To protect the Cattle and Meatmarket Bank, buyers are allowed to withdraw their purchases from the market only with the consent of the bank.

The bank has the legal status of a commission dealer and may sell on consignment. However, nearly all shipments of cattle and meat consigned to the Cattle and Meatmarket Bank are sold through official auctioneers (*Marktagenten*), who are under bond. The latter are allowed a commission of one-fourth of 1 per cent of the gross receipts of sales, a daily record of which they are compelled to keep. These auctioneers are subject to the penal authority of the Magistracy of Vienna.

Cattle-market banks in other cities.—Cattle-market banks have been established in connection with municipal markets in the following cities of Germany, viz, Cologne, Magdeburg, Berlin, Munich, Mannheim, Frankfurt a. M., and Hanover. The main purpose of these banks is to furnish credit to retail dealers in order to make them independent of the commission men.¹

First Vienna Wholesale Slaughter Company.—In connection with the St. Marx cattle market there has been established the First Vienna Wholesale Slaughter Company, a stock company with a capital of 5,000,000 kroners. It was formed in 1905 by the municipality of Vienna, the estate of Archduke Joseph, the Austrian Länderbank, and the Stock Company for the Chemical Industry in Vienna.² The company agreement provides, among other things, that cattle supplies shall be arranged for, as far as possible, by direct contracts with stock fatteners and agricultural cooperative societies for the purpose of eliminating middlemen.

The company shall, when called upon by the municipality, establish retail meat shops in different parts of the city, the necessary location being furnished by the municipality on payment of the current rate of interest. In these shops meat is to be sold at cost plus 5 per cent. It is provided that the sales price in such shops shall be lower than the price of other shops in the same neighborhood during the preceding month. The municipality furnishes necessary slaughtering, cold-storage, and other space in the municipal abattoir to the company.

In 1908 the company operated 16 meat shops.³

Municipal receiving office for cattle and meat.—The Municipal Receiving Office for Cattle and Meat was established in 1905. It formed part of a scheme of the municipal authorities to eliminate the middleman in the wholesale meat trade and to bring producers and consumers into direct contact.⁴ Its chief functions consist in keeping in touch with shippers and conditions of supply, in marketing live stock and dressed meat shipments. Use of the services of the office is not compulsory, and no selling fees except the market taxes

¹ *Fleischenquete 1912-1913*, Berlin, 1913, p. 24; *Anlageband II*, p. 307, fol.

² Emil von Fürth, "Die städtische Übernahmestätte für Vieh und Fleisch in Wien," in *Schriften d. Ver. f. Socialpolitik*, 128. Bd., p. 273, fol.

³ Emil von Fürth, l. c., p. 275, fol.

⁴ F. Rothe, "Die Fleischversorgung der Grossstädte unter besonderer Berücksichtigung der Preisbildung und Preisentwicklung, dargestellt auf Grund der Verhältnisse der Stadt Cöln. M. Gladbach, 1912, p. 133.

are charged. Purchasers receive no credit from the office, but advances may be granted shippers upon shipments. The office is located at the St. Marx market, and is in charge of a commissioner who is responsible to the magistracy. On arrival of shipments, the office takes charge of unloading, caretaking, feeding, selling; advances necessary expenditures; accepts payments, and makes settlements with the shipper. Free information is furnished regarding market conditions, etc.

In 1907 an agreement was made between the office and the Cattle Utilization Association of the General Federation of Austrian Agricultural Cooperative Societies, whose board of directors includes a representative of the city of Vienna. Under the new arrangement the office assumes the rôle of a commission dealer for the federation at the central cattle market as well as at the wholesale market hall of Vienna. The federation deals with the farmers, while the office has charge of the market end.

Municipal receiving offices in other cities.—Municipal receiving offices for live stock and meat, similar to the one in Vienna, have been established in several other cities, among them Halle on the Saale.

Handling of meat through cooperative associations.—In recent years numerous cooperative associations have been formed in European countries by stock raisers and farmers for shipping live stock and dressed meat to market without making use of the services of country buyers or agents of commission men or packers. This movement to eliminate a part of the middleman's system has been strongly promoted by Government authorities and grangers' associations. In Germany (where they are known as "Viehverwertungsgenossenschaften"), Austria-Hungary, Holland, and Denmark these associations have operated with considerable success. In many instances they cooperate with consumers' societies, while in other cases, as in Ulm and Vienna, they ship to municipal receiving stations. In the Rhine provinces six producers' cooperative associations have formed a cattle exchange which markets its products through a Cologne commission house. At another important cattle market (Essen on the Ruhr) the members of the live stock producers' cooperative association which ship to that market formed a joint selling agency which was incorporated as a limited liability company on July 1, 1910. The "Zentrale für Viehverwertung" in Berlin is the largest cooperative organization of this kind. It was incorporated in 1889, and in 1910 had 2,349 members, including 148 associations.¹

The Ulm system.—A successful experiment by the city of Ulm in Württemberg for the purpose of reducing the cost of meat has attracted wide attention and has been followed by other German cities during the war. In 1911 the city of Ulm entered into an agreement, covering a period of five years, with an agricultural cooperative association which included farmers in the vicinity of Ulm. Under the terms of this agreement the city furnished free use of certain land and financial backing to the association, while the latter was to supply yearly for five years from 2,400 to 3,000 hogs at an average live weight of 220 pounds each, with a fixed price of 50 pfennig per pound live weight and 63 pfennig per pound for dressed meat. These prices were based on average prices covering a 10-year period. A local association of retail dealers agreed to take this pork at a fixed price and to sell it at a margin agreed upon between the city authorities and the dealers' association. Plans for a similar project by the city of Berlin failed on account of lack of cooperation on the part of producers.²

¹ Fritz Rothe, op. cit., p. 137.

² Fleischenquete, 1912-13, p. 148 fol. Berlin, 1913.

Activities of cooperative societies of consumers.—In several cities consumers' cooperative societies have established meat-supply branches of their own. One of the most successful enterprises of this kind is operated by the Hamburg consumers' society "Produktion." It operates a slaughterhouse and 22 butcher shops. The annual turnover increased from 42,267 marks in 1903 to 5,023,500 marks in 1911. In addition to supplying its own retail shops, the society in 1911 sold meat products to the value of 437,744 marks to 285 other consumers' societies. Recently, the "Produktion," together with the Hamburg-American Line and the Wholesale Importing Co., organized the Meat Importing Co. for the purchase of live cattle, frozen meats, and meat conserves in Argentina.

Meat supply departments of industrial concerns for their employees.—A number of large German industrial concerns operate meat-packing plants for the benefit of their employees. The German Industrial Code (par. 115, sec. 2) permits the sale of foodstuffs to employees at cost only, so that packing plants of this type are not operated for profit. The Krupp Steel Co. at Essen has conducted a meat-supply division for its employees since 1875. In 1911 the Krupp concern operated 24 meat shops, and the annual turnover increased from about 1,000,000 marks in 1890 to approximately 10,000,000 marks in 1913. The Krupp concern operates its own cold-storage cars for delivery of meat products from the central packing plant at Essen to branches maintained in connection with Krupp plants in other towns. The Harpen Mining Co., of Dortmund, operates for its 28,000 employees a large piggery involving an investment of about 3,000,000 marks, and a packing plant with cold-storage facilities. The meat is delivered twice weekly in 5 and 10 pound packages on orders sent to the distributing office in advance.¹

Wholesale marketing of meat in Great Britain.—Great Britain gets most of its meat supply from South America and Australia, the large live cattle and wholesale meat markets of London being the chief distributing centers for the British Isles. The greater part of the trade in domestic live cattle takes place at the metropolitan cattle market at Islington, which covers an area of about 75 acres. The foreign cattle market at Deptford is used for the slaughter and sale of cattle imported into the port of London from countries in which contagious animal diseases exist. Both markets are controlled by the corporation of London.

The Smithfield market.—The Smithfield market is the principal wholesale meat and poultry market in London. It holds a unique position in the meat trade of the world. Its importance may be judged from the fact that in 1913 39.3 per cent of the beef and mutton imported into the United Kingdom passed through this market. The handling of immense quantities of refrigerated meats from overseas has caused a rapid expansion of this cold-storage business in London. The existing facilities are adequate for the storage of 3,032,000 carcasses of mutton, approximating each carcass at 30 pounds. In 1913 the total quantity of meat disposed of through this market amounted to 432,111 tons, of which approximately 77 per cent came from overseas, 40 per cent from South America, and 23 per cent from Australia.

This establishment is connected with the Great Northern Railway Co.'s system.

The market is held daily, except Sunday, and is wholesale, except on Saturday afternoon, when there is a "People's Market," where the working classes make their purchases.

Regulations and taxes on commission men: The tenants in the Smithfield market are chiefly commission men. The tolls levied amount to one-half cent

¹ Fleischenquete 1912-13, Anlageband II., p. 338; fol. Berlin, 1913.

for any quantity of meat not exceeding 21 pounds. In 1912 the market revenues from rents for shops and stalls amounted to £87,323.¹

The market by-laws provide that all porters employed in shops in the markets shall be licensed. During the year 1913 a total of 1,512 porters' licenses were issued. In the same year 32 persons were proceeded against under the market by-laws, of whom 21 were convicted and fined or imprisoned.

Section 9.—Government Regulation During the War.

During the war special regulations governing wholesale marketing of perishable food were established in most of the countries where food control was exercised. A survey of the mechanism employed shows that at first the different countries approached the problem of control or regulation from different angles. In course of time, however, experience at home and abroad brought about the adoption of a system based on practically the same principles and operated along similar lines. The methods employed during the war for regulating the retail trade in perishable foods show a much greater divergence. As a rule, systematic efforts of control were exercised first in large cities, like Paris, London, Berlin, Munich, Vienna, etc. There the wholesale trade of large consuming territories was already centralized. The existing municipal wholesale market machinery proved a serviceable and effective means for applying war-time measures of control or regulation. With the approach of peace many of the temporary war measures of food control have been abrogated. In Great Britain a subcommittee of the consumers' council (ministry of food) in a report recently stated that whereas coordination in production and distribution, under central control, had proved exceedingly advantageous to the whole community during the war, the subcommittee was convinced that it will prove equally to their advantage in time of peace, and that this policy should therefore be continued and developed as part of the national interest.

Basic war-time legislation for control of wholesale trade.—The basic legislation upon which the whole system of war-time food control rested in Great Britain was the Defense of the Realm Act. Under the act, on November 16, 1916, the War-food Supply legislation was initiated by conferring certain order-making powers on the board of trade. That system was changed on December 22, 1916,² by the establishment of the Ministry of Food and the Office of Food Controller. The act provides for the food controller sitting in Parliament.

The interallied purchasing organization exercised a powerful influence upon food supplies imported into Great Britain.

In the German Empire food control by the Imperial Government was first exercised October 3 under the law of August 4, 1914, authorizing the federal council to take such legal measures, subject to ratification by the Reichstag, as may be necessary to remedy economic needs. A law of October 23, 1914, provided that maximum wholesale prices for foodstuffs should be fixed during the war by the federal council, through the chancellor. Under authority given to him by the federal council to delegate his powers relating to the national food situation, the chancellor, on May 22, 1916,³ established a war-food office (Kriegsernährungsamt), in charge of a food controller. A central purchasing office was made the exclusive agency for handling foodstuffs imported from foreign countries. Special fruit and vegetable offices were established in certain States, like Bavaria, for the control of the wholesale and retail trade in these commodities.

¹ Report to the Court of Common Council, from the Central Markets Committee, March 19, 1914.

² 6 and 7, Geo. 5.

³ Reichsgesetzblatt, May 22, 1916, p. 402.

In France the law of April 24, 1916, for the fixing of prices of foodstuffs provided that wholesale prices shall be fixed by the prefect of each department after consultation with an advisory committee of 12 members. On November 10, 1917, a decree was issued providing for the establishment of a central office of food by the ministry of general provisions; in charge of a director of provisions.

In Australia the various State governments dealt with the question of regulating the prices of commodities until the Federal Parliament made the War Precautions Act apply to the control of prices in 1918, and thereby superseded the control exercised by the State governments. The Necessary Commodities Control Act of 1914 of New South Wales was the first and most effective of emergency measures enacted by any of the States. Under it the governor appointed a commission of three persons authorized to inquire and report to the governor what should be the highest selling price, wholesale as well as retail. The governor was authorized to declare maximum sale prices for commodities.

Kinds of foodstuffs controlled.—The variety of perishable foods, to the wholesale marketing of which Government control or regulation was extended during the war, differed widely. With the universal increase in the shortage of foodstuffs the list was expanded.

In Great Britain maximum wholesale prices were fixed for meat and fish; for butter, margarine, cheese, and eggs; for potatoes, onions, apples, citrus fruits; for sirup, molasses, and numerous kinds of jams. In Germany wholesale prices were fixed for more separate kinds of perishable foods, particularly vegetables and fruits, than elsewhere. The principal reason for this was that the increased rarity of meats necessitated a greater consumption of vegetables and fruits and made the latter a more vital factor in the nation's food problem than in other countries. Then, too, the numerous municipal wholesale markets in Germany facilitated a more detailed system of war-time control.

Wholesalers' licenses and commissions.—For purposes of control, wholesale dealers were allowed to do business only under a license. Fruit or vegetable growers who desired to sell to retailers or consumers were also required to procure a license from the food controller. Every wholesaler was obliged to keep accurate records of his dealings, including names and addresses of purchasers and sellers. A licensed wholesale dealer was allowed to sell to another wholesaler only under a special license.

In Leipzig every wholesale dealer was assigned a definite circle of retailers, recognized large consumers, street hawkers, hotels, restaurants, etc., whom he was bound under penalty to supply proportionately from all the goods he received, not merely from those allocated him by the wholesale market.

A further measure for controlling food products from producer to consumer consisted in a system of closing notes (*Schlussschein*) for all sales to wholesalers and retailers. By this system it was hoped to abolish exorbitant accretions of profits on the same products while passing from producer to consumer.

In Great Britain only one wholesaler's commission was allowed to be charged, as a general rule, in respect of any lot. If the lot passes through the hands of more wholesalers than one, the commission must be shared. In special cases an additional collecting dealer's commission, not exceeding a specified sum, may be allowed under a special license.

Grades and standards of quality.—In the case of most perishable foods for which wholesale maximum prices were fixed, a certain number of grades were established with special maximum prices for each grade. In Great Britain two grades were established for potatoes, the first grade comprising five varieties, two grades for cheese, four grades for currants; in Italy, three grades

for olive oil; in Denmark, four standard types for cheese; in Germany, four grades for butter.

A Sub-Committee of the Consumers' Council recently passed the following resolutions relative to compulsory specification of standards of quality:

"(a) The Sub-Committee approves of the regulations laid down by the Food Controller prescribing certain standards of quality for the following articles: Compound Lard, Vegetable Lard, Vegetable Butter, Shredded Suet, Dripping, Jam, Cocoa Powder, and Margarine. The Sub-Committee are of opinion that such regulations be maintained in the form of permanent legislation.

"(b) With regard to Margarine, the Sub-Committee suggest that the first and second standard of Margarine should be certified by Government analysis and imprimatur, and no other Margarine should be allowed to be sold.

"(c) With regard to Sausage, the existing standards are:

"(1) Sausages containing not less than 67 per cent of meat or pork; and

"(2) Sausages containing not less than 50 per cent meat or pork, and the Sub-Committee suggest that no other sausages should be allowed to be sold."

Regulations as to weight, packing, etc.—The regulations covering the wholesale trade in fruits and vegetables generally specified whether the respective commodity was to be sold by weight or otherwise. The British Onions Order, 1918, provides that onions are to be sold at wholesale by weight only. The Apples (Prices) Order, 1918, as amended January 27, 1919, provides that apples may be sold by the first owner by weight as well as by package. A Sub-Committee of the Consumers' Council (Ministry of Food) which was appointed "To consider the measures taken by the Ministry of Food for the control of prices and distribution of food and for other purposes during the war period, and to advise whether any, and if so, which of these measures should be continued in peace-time," in a report on "Improvements in Method of Trading," passed the following resolution:

"We strongly request that the Food Controller impress upon the Government and Parliament the necessity of continuing, in the form of permanent legislation, the regulations made by him relating to the sale by net weight of the articles mentioned in Appendix A, viz: Tea, Bread, Jam, Beans, Peas and Pulse, Wheat, Rye, Oats and Barley, Potatoes, Canned Meats, Horse Mixtures and Poultry Mixtures, and Cattle Feeding Stuff (other than wet brewers' and distillers' grains)."

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